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The Treatment of Soft Tissue Injuries

✦

Management of Burns

✦

Minimum Fracture Requirements

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EXCH. BULL

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY



NEMESIS OF THE U-BOAT is the blimp. Whereas the value of the swift airplane in coastal patrol is restricted by its own speed, that of the blimp is enhanced by its ability to hover over its prey for long hours. The blimp has *staying power!*

This contrast also applies to local anesthetics. Nearly all exercise but a short-lived influence upon a chosen site. Eucupin is different. Its effect is not fleeting. It remains at the site of injection, causing prolonged anesthesia followed by analgesia for periods ranging from 24 hours to 5 days or more. Eucupin eliminates the hyperesthesia that usually follows transient anesthetics. *Eucupin, too, has staying power!*

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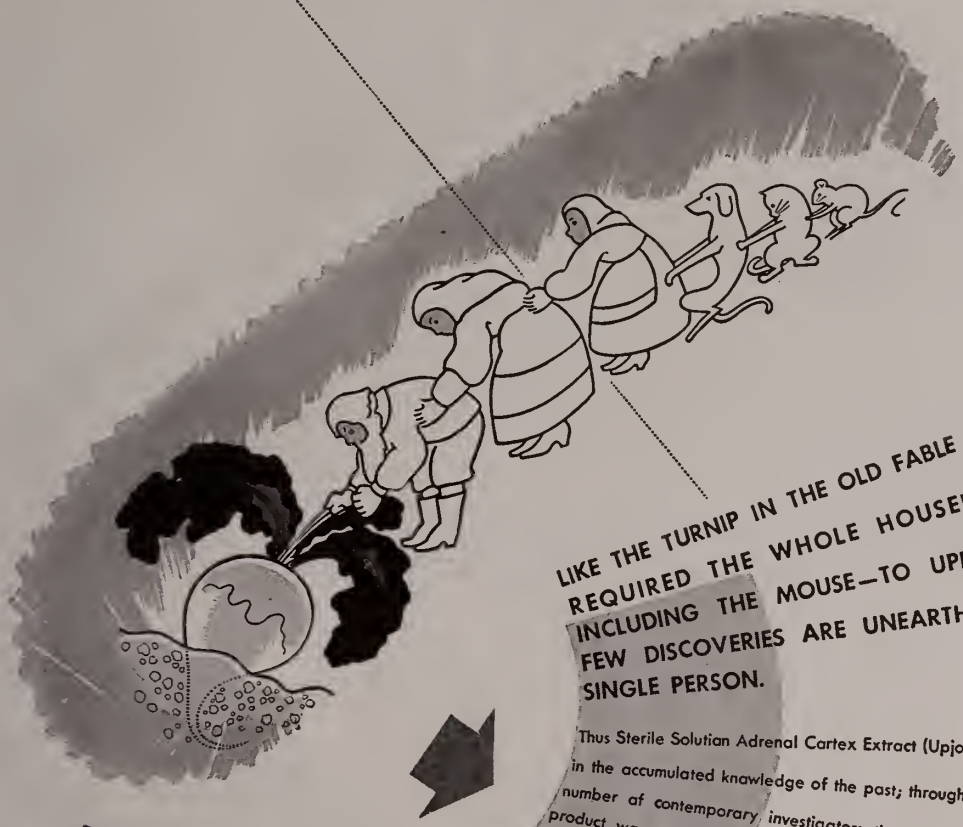
For local anesthesia with prolonged analgesia

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LIKE THE TURNIP IN THE OLD FABLE THAT REQUIRED THE WHOLE HOUSEHOLD—INCLUDING THE MOUSE—TO UPROOT IT, FEW DISCOVERIES ARE UNEARTHED BY A SINGLE PERSON.

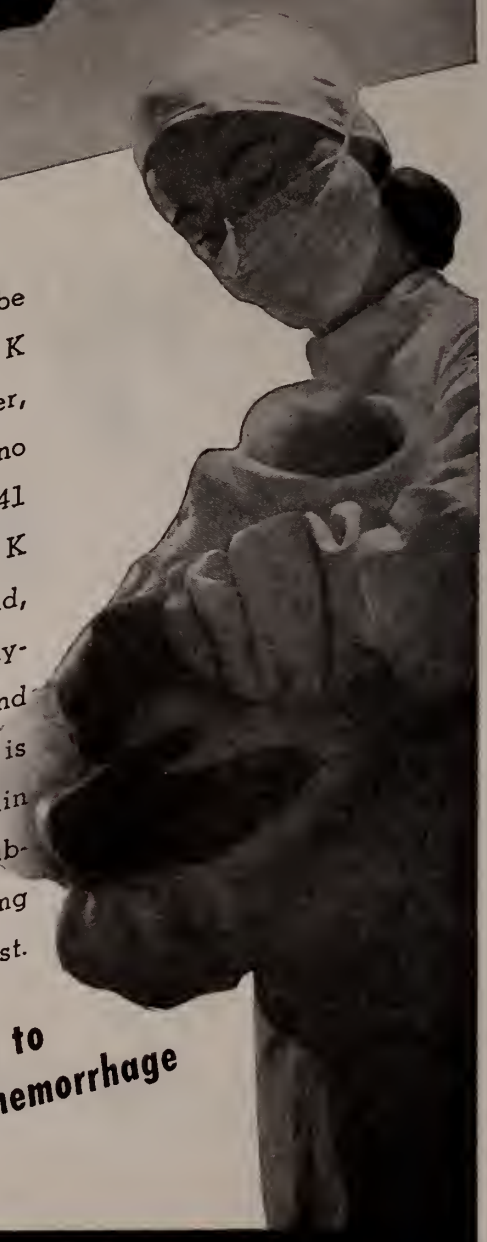
Thus Sterile Solutian Adrenal Cartex Extract (Upjohn) had its roots in the accumulated knawledge of the past; through the work of a number af contemporary investigators the possibility of such a product was demonstrated; and finally, through the combined efforts af the research and production departments of The Upjohn Company, the extract was produced in commerciol quantities. Sterile Solution Adrenol Cortex Extract (Upjohn) is available in 10 cc. rubber-copped vials at your prescription pharmacy.

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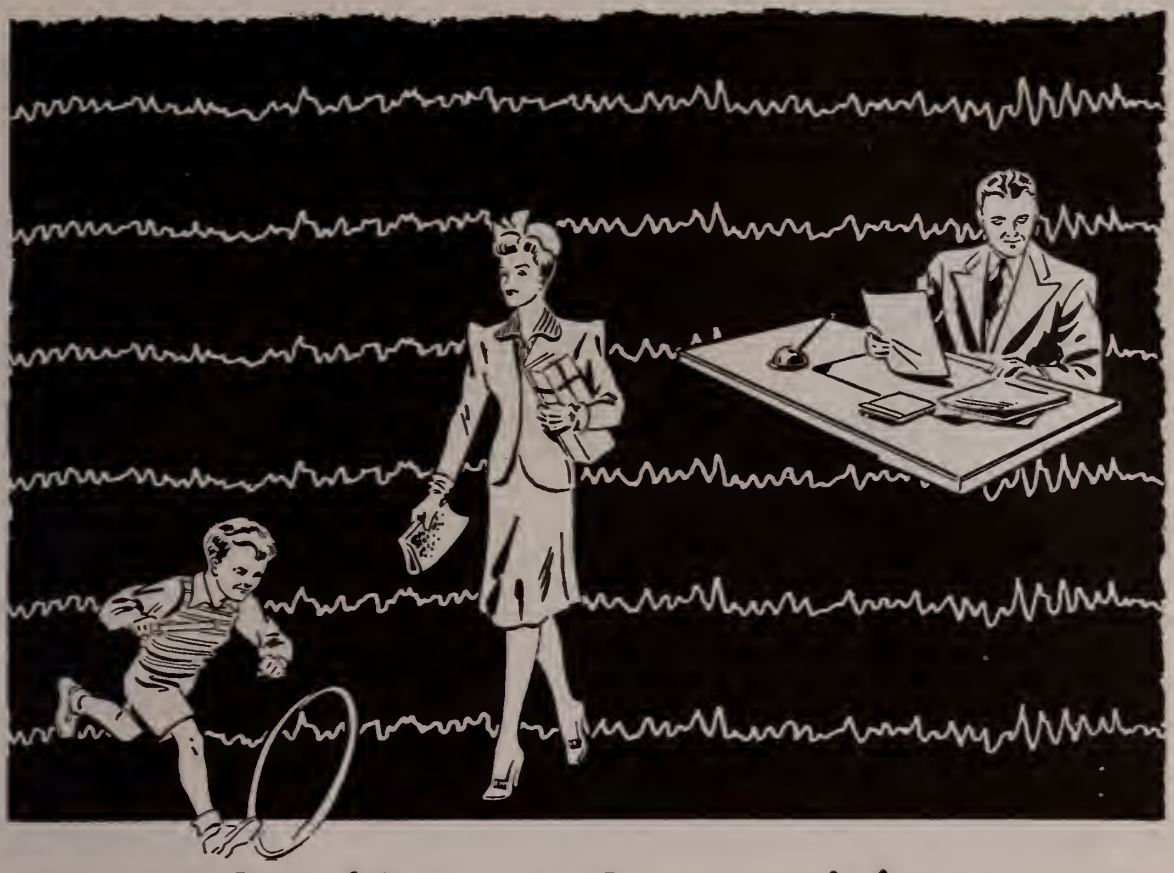
SYNKAYVITE IN OBSTETRICS



Hemorrhagic disorders in the newborn can be strikingly reduced by the administration of vitamin K to mothers during labor. Fitzgerald and Webster, J.A.M.A., 1942, 119:1082, report that there was no evidence of neonatal bleeding in a series of 641 babies whose mothers had received vitamin K therapy. Synkayvite, the Roche vitamin K-compound, is the choice of many physicians for routine prophylactic vitamin K therapy because of its all-round therapeutic efficiency. Molecule for molecule, it is one and one-half times as active as natural vitamin K, yet relatively nontoxic. Supplied in oral tablets, 5 mg each; and ampuls, 1 cc, 5 mg or 10 mg each. Literature will gladly be sent on request.

a routine measure to prevent neonatal hemorrhage

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OF MORE NORMAL, HAPPIER PEOPLE

THE oscillating "finger" of the electroencephalograph, recording abatement of abnormality of brain waves, tells but a part of the story of epilepsy treatment with Dilantin* Sodium. Fewer and less severe seizures, more normal social and economic life have been observed in many thousands of epileptic patients receiving this modern anticonvulsant.

Dilantin Sodium possesses "many advantages" in the control of epileptic convulsions.[1] For one thing it is, in many cases, superior in anticonvulsant effectiveness to phenobarbital or bromides, and—highly important—it is practically non-hypnotic. The inclusion of Dilantin Sodium (diphenylhydantoin sodium) in the new U.S.P. XII speaks volumes for its therapeutic importance.

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KAPSEALS

DILANTIN SODIUM

A product of modern research offered to the medical profession

1. Palmer, H. D. & Hughes, J.: *The Penn. Med. J.*, Aug. 1942

Another Year of Research in



During the year 1942, the results of distinct research projects covering different phases of ERTRON therapy have been added to the extensive bibliographic background of this important therapeutic measure.**

STECK, I. E.: *"Further Clinical Experience in the Treatment of Arthritis with Vitamin D," Ohio St. Med. Jl., 38:440-443, May, 1942.*

Steck reported on his clinical experience in 98 cases of arthritis treated with ERTRON and no concurrent medication.

These patients were observed over a period of years at the Arthritis Clinic, Research and Educational Hospitals, University of Illinois.

The therapeutic results were closely comparable with those previously reported from the same clinic. (Dreyer, I., and Reed, C. I.: "Treatment of arthritis with massive doses of Vitamin D," Arch. Phys. Ther., 16:537, 1935; Reed C. I., Struck, H. C. and Steck, I. E.: "Vitamin D: Chemistry, Physiology, Pharmacology, Pathology, Experimental and Clinical Investigations," University of Chicago Press, p. 389, 1939.)

In addition to the beneficial therapeutic effect of ERTRON, it is important to note that "there was no toxicity at any time among the 98 patients included in this report."

SNYDER, R. G., SQUIRES, W. H., FORSTER, J. W., TRAEGER, C. H. and WAGNER, L. C.: *"Treatment of 200 Cases of Chronic Arthritis with Electrically Activated Vaporized Sterol (Ertron)," Indus. Med.: 11:295-316, July, 1942.*

The authors made a comprehensive study of 200 cases of chronic arthritis treated with ERTRON. Most of these patients had been treated previously by other methods at the same clinic (Arthritis Clinic, Hospital for Ruptured and Crippled, New York City) without success.

After extensive laboratory and clinical observations, the authors reported that "the medication used is a relatively non-toxic therapeutic agent. In our experience it has definite value as a method of treating chronic arthritis, especially of the rheumatoid type."

REYNOLDS, C.: *"Comparative Therapeutic Value and Toxicity of Various Types of Vitamin D," Journal-Lancet, 62:372-375, Oct., 1942.*

Reynolds compared the therapeutic value and toxicity of various forms of Vitamin D, and concluded that "massive doses of irradiated ergosterol bring about the development of toxic effects without clinical improvement of arthritic patients, while use of the electric-discharge activated heat-vaporized ergosterol (Whittier Process) has consistently been followed by clinical improvement with frequent rehabilitation, and with negligible or no toxic manifestations even over prolonged periods of intensive treatment."

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****References:**

LIVINGSTON, S. K.: Vitamin D and Fever Therapy in Chronic Arthritis, Arch. Physical Therapy, X-Ray, Radium, Vol. XVII, pp. 704-706, November (1936).

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WOLF, ISRAEL J.: Treatment of Rickets with a Single Massive Dose of Vitamin D, Jl. Med. Soc. of N. J., Vol. 38, p. 436, Sept. (1941).

KRAFKA, JOSEPH: Vitamin D Therapy in Psoriasis, Jl. Med. Assn. of Ga., Vol. XXX, No. 9, pp. 398-400, September (1941).

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SNYDER, R. G., and SQUIRES, W. H.: Follow-up Study of Arthritic Patients Treated with Activated Vaporized Sterol, N. Y. State Jl., pp. 2332-2335, December (1941).

SNYDER, R. G., SQUIRES, W. H., FORSTER, J. W., TRAEGER, C. H. and WAGNER, L. C.: Treatment of 200 Cases of Chronic Arthritis with Electrically Activated Vaporized Sterol (Ertron)—Industrial Medicine, Vol. 11, No. 7, pp. 295-316, July (1942).

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LEVINTHAL, DANIEL H. and LOGAN, C. E.: The Orthopedic and Medical Management of Arthritis, (In Press).

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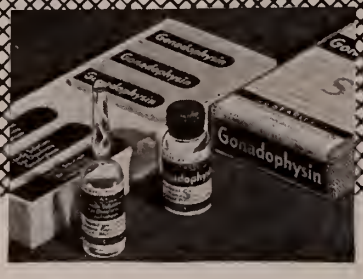
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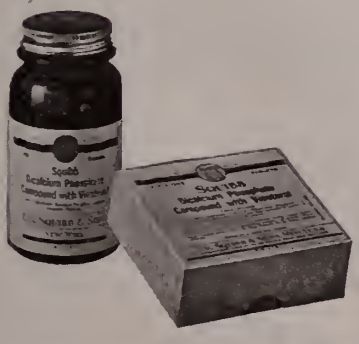
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AUTHORITIES recognize that most of the mineral requirements of human beings are usually supplied by even a very poor diet. Calcium, however, is an exception. Unless people consume plenty of milk, or milk products, they often fail to get enough calcium to meet *normal* requirements.

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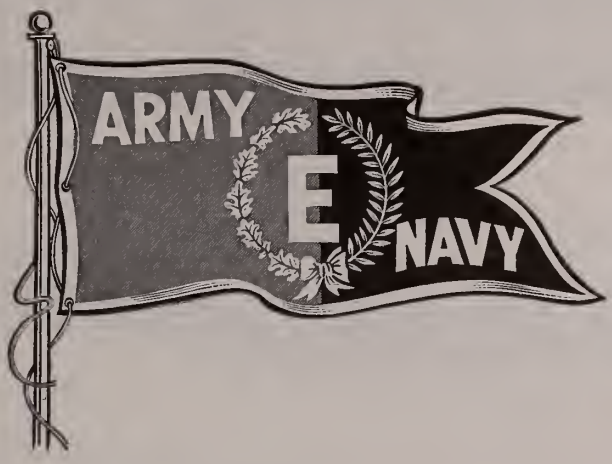


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†Fowler and Barer: "Rate of Hemoglobin Regeneration in Blood Donors." J.A.M.A., 118:421:1942.

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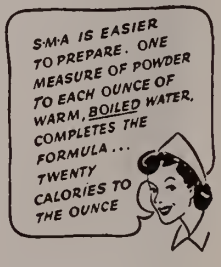
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Just because my boss turned over a new leaf . . . he wants everybody to pat him on the back for it. But he's not fooling us . . . we know how he got to be such a nice man.

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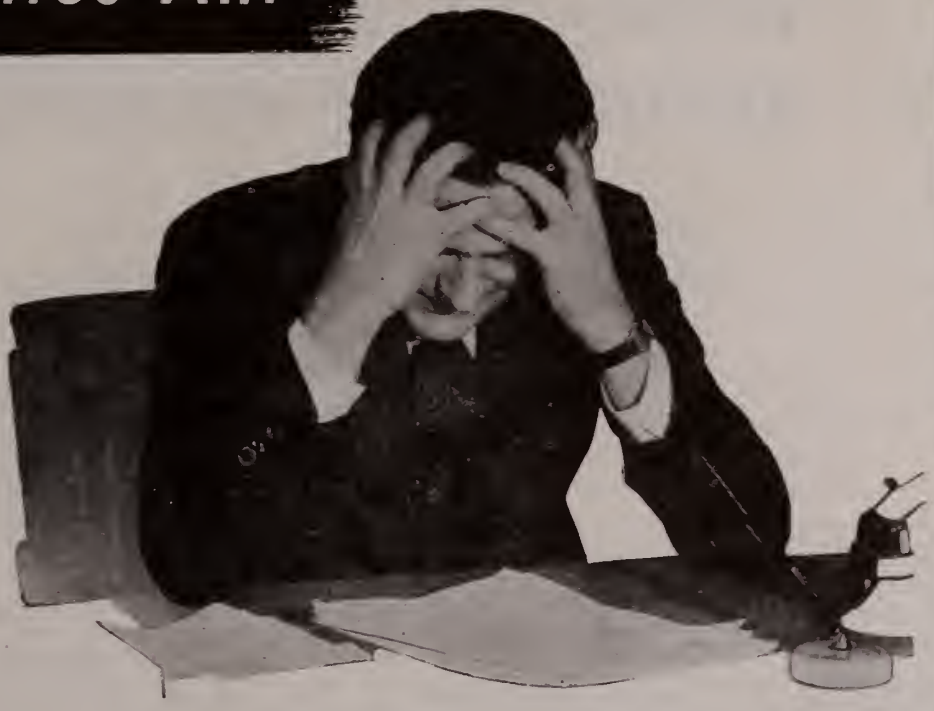
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*Hermanze and Bacon, Cyclop of Med., X:1135.

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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60*

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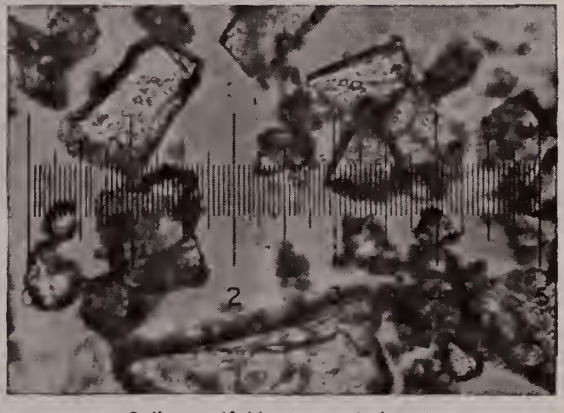
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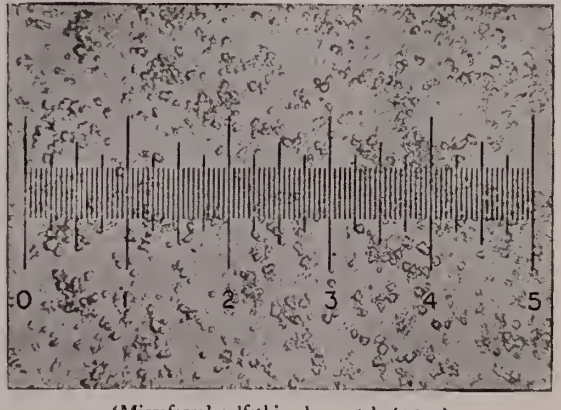
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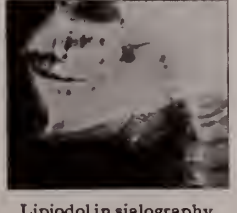
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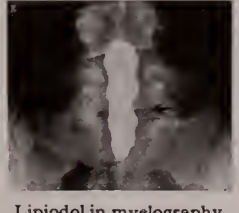
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The Illinois Medical Journal

January, 1943

VOL. 83, NO. 1

Official Journal of the Illinois State Medical Society

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Editorials

HAPPY NEW YEAR

The United States on this New Years Day, is on its second year of war. Much has been accomplished in the year which has just ended. Thousands of planes, tanks, and many other essential appliances of modern warfare have been sent to all parts of the world.

It is no longer a defensive war, but already the United Nations have started offensives on several fronts. The American soldier's and sailors are receiving the best medical care given to warriers anywhere in the world. Thousands of the thoroughly competent physicians of this country are on duty wherever members of the fighting forces are located.

Illinois has responded nobly, indeed, and there are nearly 4,000 physicians from this state now in service. The United States is and always has been a peaceful nation and being at war is not at the request of our people but through most unfortunate circumstances which came not from the desires of the American people.

The citizens of the United States are willing to carry on in civilian life to turn out the armaments, food and many other supplies necessary to bring the war as speedily to an end as is humanly possible. They are willing to take the many necessary sacrifices and be denied the many blessings enjoyed normally only in a Democracy. Our farmers with their enforced reduced help, will carry on in providing the essentials of life to all.

The members of the medical profession must carry on even though in many communities throughout the country, there remains only enough physicians to give adequate medical care through working longer hours and giving up many non-medical activities they have enjoyed in the past.

Physicians will continue to attend medical meetings, even though they may be unable to travel the distances to meetings as many have done in recent years. Our Medical Journals will carry on, cooperating in every way possible in the war effort and at this time it seems quite probable that the number of pages in each issue will be reduced 10% with these unusual conditions confronting us. The Illinois Medical Journal, the Editorial Board, Journal Committee, Editor and Business Manager wish one and all of the thousands of readers — *A Happy New Year.*

THE HONOR ROLL

We are publishing in this issue of the Illinois Medical Journal, a list of physicians from Illinois now in the armed forces. The list is probably not complete, as occasionally the reporting of physicians entering service is delayed for several weeks. The long list however, shows

conclusively that Illinois is not a slacker state, and that the medical profession has responded nobly to the call of the Government for medical personnel.

There are many communities throughout Illinois where the minimum requirement of physicians to civilian population now exists. There are some communities where physicians are needed, and efforts are now being made to replace physicians from communities where they can be spared, to the places in need of additional physicians. This of course, is done on a voluntary basis.

It is believed by those who have given much thought to the problem, and have made careful studies of the present situation in Illinois, that it may not be necessary to bring in physicians from other states, so long as re-locations within the state will meet the present requirements.

Likewise every effort will be made to supply essential physicians for industries, ordnance and other essential plants, for the care of the essential workers is highly important in the present war effort.

Anyone looking over this long list of medical officers in the armed forces, and noting that someone has been overlooked, should notify the Secretary of the omission as soon as possible, and additional lists will be published in an early issue of the Journal. At this time other Illinois physicians are entering service daily, and it is possible that a number of recently inducted officers will not appear in this list.

To those members of the medical profession who are in service on the seven seas, or the five continents, the Illinois State Medical Society sends greetings. We all know that each of you will do the work to which you are assigned, efficiently and satisfactorily. We are all thinking of you and will wait patiently for the day when you are safely returned for civilian duties.

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Maj. Lemuel E. Day
1896-1942

Death came to one of Illinois State Medical Society's best known members when Maj. Lemuel E. Day died of heart failure in the jungles of New Guinea while serving his country.

Maj. Day graduated from Rush Medical College in 1925. He was actively interested in all affairs of the Society, and served as a member of the Council since his election in May of 1933.

Memorial Services were held for Maj. Day on Sunday, January 10th at the Sauganash Community Church in Chicago at 3:00 p.m.

For the following stirring and detailed story of his heroism and death by George Weller, we are indebted to the Chicago Daily News Foreign Service.

★ ★

CHICAGO DOCTOR DIES
A HERO IN PAPUA

By GEORGE WELLER

SPECIAL RADIO
To The Chicago Daily News Foreign Service.
Copyright, 1943. The Chicago Daily News, Inc.

With American Forces in New Guinea, Dec. 26—(Delayed)—In the spotted light and shade of the creeper-hung Papuan jungle, the phonograph's voice sounded thin and unreal. It was hot, sticky and oppressive, with New Guinea's marsh-borne odor of aged mud and dried kunai grass. The phonograph was playing "Beautiful Isle."

No leaf stirred. Finally the record came to a close and the music ceased. The body of Maj. Lemuel Edward Day of Chicago, the most beloved surgeon of the American forces battling in the bitter mud of Papua, was lowered with all care into his grave. There was no flag to cover him, no bugler to sound taps. This is a deadly war going on here and military appurtenances like flags and bugles are still far away.

But the staff of his small and much-bombed field hospital felt that they had to do something for "Pop" as they called him. So, after the Baptist chaplain, Almus B. Polsgrove of Tupelo, Miss., and Charleston, S. C., read the funeral service, they wound up Pop's old phonograph which had been played to cheer them up in the grassroofed hospital's hardest times, put on his favorite "Beautiful Isle" and played that.

Gave His Life Like Soldier

It was something extra because, although sacrifice is the law of medicine, few give their lives as Pop Day gave his.

"Pop gave his life to the Papuan campaign just as certainly as any soldier who falls fighting his way across the swamp," said Capt. William F. Edwards of New Albany, Ind.



Maj. Lemuel E. Edward Day

Day, well known on Chicago's Northwest Side for his private practice, was a big man, weighing 234 pounds. His incredible labors in great danger in the campaign on the northern side of the Owen Stanleys had pared his muscular figure down to about 200. When he passed away, sleeping in a tent with six fellow doctors, his normally dark hair had turned wholly gray.

He left his home at 6142 N. Kirkwood av., his wife, a 16-year-old daughter and twin 14-year-old boys at a time when he might reasonably have stayed out of uniform. He died here in the jungle two days before Christmas, which would have been the 20th anniversary of his marriage, and two days after receiving a silver star for heroism during the bombing of his hospital.

"What gets us," said his fellow doctors, Maj. Peter Gaberman of Chicago, Capt. Leonard K. Stalker of Buffalo and Lt. Julius J. Gutow of Flint, Mich., "is that he was always so solicitous of everybody else's welfare."

Died with Japs Overhead

Day died of heart failure during the night when some Jap bombers which had before harassed his hospital with bombing and strafing were overhead. But on his last evening, he was as busy as ever when the air alarm sounded, getting wounded soldiers into slit trenches.

Day was head surgeon of the board taking Chicago doctors for the Army. Asked why he himself enlisted, he said:

"I was having difficulty getting enough surgeons of the right kind. So I said to myself, "well, if I'm getting doctors why shouldn't I go myself?"

Day entered the Army on June 15 and received orders to go overseas in July, joining under Col. H. B. Wolowitz of Hackensack, N. J. On Nov. 24, the hospital Day had set up after flying across the mountains to a secret airfield, was bombed and the next day it was strafed by Zeros, despite the 40-foot Geneva cross on the ground. Five days later, on Nov. 30, a Jap bomber came low, strafed three times, then dropped a demolition bomb which blew Capt. Edward's glasses from his face. Then followed the war anniversary attack on Dec. 7.

Bombs Kill Nine in Hospital

In this deliberate and inexcusable attack, nine patients were killed, another body of one who crawled away to escape Jap fire having been discovered in the grass the afternoon before Day's death. When the bombing began, Day was amputating on his crude operating table of reeds bound together with withes. He suffered his first heart attack then. Although continually exhorted by his close collaborating surgeon, young Capt. Lloyd Taylor of Oklahoma City, to relax his labors, Day insisted on working at virtually the same 24-hour pace.

Day's last words when the night bombers passed over were addressed to Taylor. The young doctor had asked permission when emerging from a slit trench to place his trousers on Day's bed. Day's characteristically warm response was, "Why you know, son, that in my eyes you can never do wrong."

Proud of 'Flying Hospital'

During the air raid itself, Day was explaining to a Red Cross man and James Stewart of Oneonta, N. Y., how his "flying hospital" had been so speeded up that he could go anywhere trucks and trailers were available — though dependent on jeeps here — and be prepared to do major operations "with sterilizers steaming" in one hour and 40 minutes.

Day's estimate of himself was, "I'd make a poor Army commander because I am not hard-fisted enough."

Day's soothing words, "You'll be all right, fellow, in a little while," were heard by many Americans and Australians as he bent above their beds. He hated being bombed principally because it affected his work and called the attack the "most depressing thing that ever happened in my life."

Day, who now, at 46, shares a small cemetery with three fallen Australians and three Americans, felt himself more deeply involved in the war because the brother of his wife, Lucille E. Day, was killed in the Philippines.

Here is what those enlisted men who worked under Day told your correspondent they thought of him.

Louis Williams of St. Louis: "He was the most wonderful man I ever met."

John Jacobsin of 5438 N. Luna av., Chicago: "He was the jovial kind and nice to work with."

George Lutiger of 5322 W. Van Buren St., Chicago: "As a commander, the major was tops."

Frank Glab of 1318 N. Wolcott av., Chicago: "Pop was our grand old man."

William J. Storm of 1350 Newport st., Chicago: "The major was like a father. He always treated his patients and ourselves swell."

Sidney Thomson of 2924 N. Major, Chicago: "Day was a helluva swell fellow and a good boss to work for."

Harold Wells of 146 W. Washington, West Chicago: "No grander guy and doctor ever lived than Maj. Day."

Lawrence Stanton of 3907 Greenview av., Chicago: "No matter how small a soldier's wound, the major always looked after him personally and took care that he recovered. He was our daddy, that's all."

Corp. Alois Vogt of Dubuque, Iowa: "The major was a father to every one of us."

Diary Describes Bombing

The following are excerpts from Day's journal:

Dec. 7, 11:30 a.m.: On this first anniversary of the Pearl Harbor episode, as we were preparing an appendectomy on an Australian soldier, we were attacked by three enemy dive-bombers who raked us with machine-gun fire and dropped two bombs near Wards 3 and 4 resulting in the death of three patients in Ward 3 and five in Ward 4 and the wounding and mangling of 30 to 40 other patients. At approximately 1:30 p.m. a formation of 18 enemy bombers, screened by Zeros, interrupted our work on previously injured men, flying over our entire field and dropping bombs of various types. This terrifying experience resulted in the mangling of the legs of two of the men, one of whom was a patient, the other probably on his way to the hospital.

Dec. 8: Waiting to receive sick and wounded from the front to care for them until the earliest possible plane for evacuation to Port Moresby. Definite treatment can never be practicable in this jungle.

Fever Patient Wanders Away

Dec. 15: During the night one of our fever patients became delirious and leaped from bed, crawled under the side of the tent and disappeared into the jungle. Efforts to find him were unsuccessful. The Quartermaster detachment in the village was notified so it would not shoot him by mistake. At 1:30 this

afternoon he was picked up near the village wandering in a daze and promptly evacuated on the next plane.

Dec. 17: The moon is a little more than half full. Two times recently evening reconnaissance planes have more or less covered this entire area. Tonight at 10 o'clock, two squadrons of bombers dropped about 25 bombs, none of which landed close to the hospital.

Dec. 18: After last night's bombing enemy bombers were back again at 2:30 and 5:30 this morning dropping some bombs each time, none of which hit too near us. Little sleep was had by anybody. Again they were back over the area and within hearing distance for two hours. About 20 bombs were dropped, none of which landed near us. Night life when there is moonlight is spent half in bed, half in the trenches — a somewhat ghastly nightmare.

Saturday, Dec. 19: The moon was just short of full but nature kindly provided clouds and a downpour of rain. As a result enemy planes were not over. We pray for more clouds and more rain at night until the bright moonlight phase has passed.

That was the last entry in Day's notebook.

THE MEDICAL PROFESSION

NOTE: The following tribute to the medical profession recently came to the office of the Editor, and we are publishing it as submitted, to show what others think of the doctor.

Do you ask me, What think I of Medicine as a Profession? Would you have me list the qualifications and the duties and the obligations of him who would practice it honestly, efficiently and joyfully?

The "Ministry" is the purest, most unselfish and altruistic of all callings, because in a word it demands so much and yields so little — so little in bread and butter and clothes and gold and worldly pleasures. On the other hand, the Ministry demands what? A very great deal — a robust virile body, an acutely active clean mind, both of them scourged by self denial so that they may ever withstand the constant keen, aye skeptical, criticism of a cynical world!

Finally the Ministry yields what? All that priceless satisfaction which warms one's inners, the inevitable lot of him who deliberately devotes his life to sacrifice, sacrifice to his fellowman, to his God, and Gentlemen, I say to you "Medicine and Ministry are cut from the same cloth."

What think I of Medicine as a profession? It is a glorious vocation and those within it fold are the envy of those without. The average human being builds as strenuously as the coral insect, and like it, he disappears, content if he has left some minute constructive atom in this topsy-turvy world. But the physician who through knowledge, skill, personality or kindness is able to smooth one wrinkle from the brow of care, or change one moan or sob into blithesome song, or wipe away one tear, and in its place put a shining jewel of joy, such a man is indeed a benefactor. He lives, he breathes, he exudes his own God-given individuality.

And so when Death comes to the Physician, then even as our earthly sun goes below the horizon and yet is not set, since the heavens glow indefinitely after its departure, so even after the vital spark of the "Doctor" goes out, the radiance of his personality illumines the sky of his world ad infinitum.

PAPERS FOR THE 1943 ANNUAL MEETING

The Illinois State Medical Society is planning to hold the 1943 annual meeting scheduled for Chicago, on May 18, 19, 20 at the Palmer House. At a recent meeting this matter was thoroughly discussed by the Council, then later by the Committee on Scientific Work and plans are now being made for an outstanding program which it is hoped will be of general interest to all physicians. The 1943 meeting will be considered a war meeting, and efforts will be made to feature the role of medicine in war time and also extend invitations to the many medical officers in the Army and Naval forces stationed in Illinois to attend the meeting and participate in the discussions.

There will be more general sessions scheduled than usual, with all of the scientific sections participating, but provisions will be made for individual sections to conduct their own technical sessions during the meeting.

Members of this Society who desire to present papers before any of the sections are requested to write to the officers of the proper section giving the information, and including the title of the paper, and a short synopsis or abstract so

that the officers will be better enabled to determine whether or not the paper will fit in with the program scheme, and also keeping in mind the fact that with so many general sessions, there will be less time than usual available for technical subjects.

SECTION OFFICERS — 1943

SECTION ON MEDICINE

* M. Herbert Barker, Chairman.....
.....700 N. Michigan Ave., Chicago, Ill.
Chauncey Maher, Vice-chairman.....
.....6 N. Michigan Blvd., Chicago, Ill.
George B. Stericker, Secretary.....
.....Springfield, Ill.

SECTION ON SURGERY

** J. C. Thomas Rogers, Chairman.....
.....Urbana, Ill.
J. R. Buchbinder, Secretary.....
.....104 S. Michigan Ave., Chicago, Ill.

SECTION ON EYE, EAR, NOSE & THROAT

G. Henry Mundt, Chairman.....
.....30 N. Michigan Ave., Chicago, Ill.
George H. Woodruff, Secretary.....
.....Joliet, Ill.

SECTION ON PUBLIC HEALTH & HYGIENE

Henry C. Niblack, Chairman.....
.....54 W. Hubbard St., Chicago, Ill.
R. R. Cross, Secretary.....
.....Springfield, Ill.

SECTION ON RADIOLOGY

* Cesare Gianturco, Chairman.....
.....Urbana, Ill.
F. Flinn, Vice-chairman.....
.....Decatur, Ill.
Fay Squire, Secretary.....
.....1753 W. Congress St., Chicago, Ill.

SECTION ON PEDIATRICS

A. J. Fletcher, Chairman.....
.....Danville, Ill.,
Robert Cummings, Secretary.....
.....400 E. 79th St., Chicago, Ill.

SECTION ON OBSTETRICS & GYNECOLOGY

Clyde J. Geiger, Chairman.....
.....4753 Broadway, Chicago, Ill.
C. J. Heiberger, Secretary.....
.....Peoria, Ill.

* In service.

** A vice-chairman to be appointed.

NOTE: The Section on Pediatrics and the Section on Obstetrics and Gynecology are required to divide the time equally during the meeting, and cannot meet simultaneously unless in joint session.

Physicians interested in presenting papers at the 1943 meeting should write to the above named officers.

NATIONAL CONFERENCE ON MEDICAL SERVICE

The 1943 annual meeting of the National Conference on Medical Service will be held at the Palmer House, Chicago, on Sunday, February 14, 1943, beginning at 9:00 A.M. The officers for this meeting, are J. D. McCarthy, M.D., President, Omaha, Nebraska, and W. L. Burnap, M.D., Secretary, Fergus Falls, Minnesota.

The program being arranged will be most timely and will be devoted principally to a discussion of present day war problems, and some of those pertaining to medical practice immediately following the war.

This organization is unique in that it has no definite membership roll, there are no annual dues, and every physician is cordially invited to be present and participate in the deliberations throughout the day. A complete program will be published in the February Illinois Medical Journal.

Note:—

Publication of the Honor Role in this issue of the JOURNAL makes it necessary to omit the Clinico-pathological Conference. This popular department will appear in its regular place in the February issue.

Correspondence

AGED PUBLIC ASSISTANCE RECIPIENTS AND THE MANPOWER SHORTAGE

By Wallace W. Clark
Acting Superintendent

Opportunities for elderly persons to hold jobs or secure new ones are apparently better than they have been for several years.

The marked decrease in the number of applications for Old Age Assistance during the year ending June 30, 1942, and the change in the ratio of men to women who have been given Old Age Assistance grants in the last year indicate that the period of self-support for older persons is longer than it has been at any time since the enactment of the Old Age Assistance law.

During the year ending June 30, 1942, the smallest number of applications in the history of the Division was filed—a decrease of 19 per cent under the former year, and of 32 per cent under the year 1940. The number of applications filed was 5,620 less than in 1941. The total number of applications filed was 23,389. In 1941 the figure was 29,009; in 1940, 32,050.

FEWER GRANTS GIVEN

The increase in the number of recipients added to the Old Age Assistance roll from June 30, 1941, to June 30, 1942, was 3,773, the lowest increase in any year in the Division's history. Furthermore, relating the total number of recipients on the assistance roll at the end of the 1940-1941 fiscal year to the increase, the percentage increase was only 2.5 per cent during the year 1941-42 as compared with 6.2 per cent for the previous year.

MEN AND WOMEN

Fifty-two per cent of the persons in Illinois 65 years of age and over are women. But the number of women added each year until 1940 to the recipient roll has been smaller than the number of men. Since 1940, however, the number of men granted Old Age Assistance has decreased more rapidly than the number of women and the ratios of men to women who have been given assistance grants have been reversed. During the 1938-39 fiscal year the men to whom Old Age Assistance grants were given were 52.7 per cent of the grantees; in 1939-1940 they were 49.7 per cent; in 1940-1941, 47.5 per cent; in 1941-1942, 46 per cent. Between 1940-1941 and 1941-1942 the number of men to whom grants were given decreased 14.7 per cent and the number of women, 9.3 per cent. These figures indicate that longer periods of employment for older men, as a result of the shortage of manpower during the current emergency, may be responsible for a lengthened period of independence.

THE EMPLOYMENT SURVEY

In February, 1942, a survey was begun in all County Departments of Public Welfare of a sample group of recipients under the age of 75 to learn their former occupations, ages, and physical ability and willingness to accept employment. The men whose work experience had been in agriculture or skilled and semi-skilled labor were asked if they were able and wished to return to work, if jobs were available. Emphasis was placed on the facts that return to employment was entirely voluntary, and that when a

job was terminated the recipient, if still eligible for Old Age Assistance, would be immediately reinstated on the Assistance roll. Willingness to accept employment was shown by a large number of recipients, but their physical ability was found to be insufficient for sustained labor.

Based upon the findings of this survey it is estimated that 1,830 men recipients of Old Age Assistance are willing and able to work if jobs are available for them. These men want to go to work in order to become self-supporting and to contribute all the labor of which they are capable.

Six hundred and seventy-five, or approximately 37 per cent of the group who wish to go back to work and are able to do so have had agricultural experience as farm owners, tenants, or farm laborers. The others are skilled and semi-skilled laborers. Of this laborer group, 273 have had factory experience; 368 have worked in the building trades; 514 in miscellaneous industries.

WHY NUMBER IS SMALL

One of the principal factors accounting for the relatively small proportion of recipients who are able to accept employment is advanced age. The average age of recipients at the time Old Age Assistance grants are made to them is 68.5 years. The average age of all recipients currently receiving Old Age Assistance is estimated to be 73 years.

From the Division's experience, aged persons in Illinois apply for and receive grants only when no other source of support is available. Only one out of every four persons 65 years of age and over in Illinois receives Old Age Assistance at this time. The fact that three out of four aged persons do not receive Old Age Assistance indicates that those persons who reach the Old Age Assistance roll have sought this form of aid only after every effort to maintain financial independence has been exhausted.

Another reason these aged persons hesitate to seek full-time employment is that almost one-half of all Old Age Assistance recipients are under the care of a physician for some form of disease or physical disability. Many aged men on the recipient roll may be in fair physical condition themselves, but their wives are ill and must rely upon the housekeeping, and upon the bedside or nursing care of their husbands.

It may also be observed that many recipients who are unable to accept full-time employment are able to and do engage in part-time work.

PLACEMENT EFFORTS CONTINUE

Through the United States Employment Service and local community groups who are working to meet the necessary labor demands in various parts of the state, efforts are being made to find suitable jobs for recipients willing to go back to work whose work experience and physical ability can be advantageously used.

The Welfare Bulletin, Sept., 1942

WAR SURGERY MEETING

At a time of national emergency, such as we now face, intellectual forces aptly adapt themselves to circumstances under which they must advance. Therefore, to fill the need for inspiration and information with regard to the war medical problem, two great medical societies, the American Academy of Orthopedic Surgeons and the Clinical Orthopedic Society, have combined their annual meeting to meet his challenge. This joint meeting will be held on January 17, 18, 19, and 20, 1943, at the Palmer House in Chicago. The keynote of this occasion will be "War Surgery" and its application to civil practice. Those members of the medical profession in good standing, who are interested in bone and joint surgery and its allied fields, may have the privilege of attending.

There will be four sections of interest connected with this program.

1. A clinical program.
2. A general scientific assembly.
3. An instructional section.
 (a.) Group discussion courses.
 (b.) Motion pictures of surigcal methods and technique.
4. Scientific exhibits.

The speakers and faculty are drawn from the leading surgical authorities of this country, as well as distinguished guests from England, Canada, South America and the Hawaiian Islands. These will include a sizable group of Army and Navy Surgeons who have had to deal directly with the war casualties from across both oceans.

Thorough, concise, short discussion courses will be offered on the following subjects. Each

will have an outstanding faculty, many of whom are in military service.

I. Surgery of the Hand
II. Fractures
III. Peripheral Nerve Injuries
IV. Amputations
V. Lame Backs
VI. Surgery of the Hip
VII. Surgery of the Knee
VIII. Burns and War Plastic Procedures
IX. Foot Disabilities
X. Differential Diagnosis of Bone Pathology
XI. Reconstructive Surgery Following Trauma of the Supper Extremity
XII. Surgical Anatomy

There will be several special features in connection with the general program.

A. An afternoon devoted to "Complicating Trauma Associated with Orthopedic casualties." This will include a discussion of the following subjects.

1. "Shock — Its Early Recognition and Treatment."
2. "Blast, Crush and Compression Injuries."
3. "Thoracic Injuries."
4. "Head and Spine Injuries."
5. "Gunshot Injuries to Abdomen."
6. "Injuries to Genito-Urinary Tract."

B. One evening will be devoted to the subject of "Chemotherapy in the Treatment of Wounds," with eminent authorities who have studied the subject from various angles.

C. Another evening will be given to a debate on "The Kenny Treatment for Anterior Poliomyelitis."

There will be no time for play. Morning, afternoon and evening will be devoted entirely to the problems as they have been outlined. As has been stated previously, members of the medical profession who are interested in such a program are welcome to attend, and may receive an invitation by writing to the Secretary, Dr. Myron O. Henry, 401 Medical Arts Building, Minneapolis, Minnesota. If you expect to attend, hotel and railroad reservations should be made early.

PHARMACIST'S ROLE IN VENEREAL CONTROL

Pharmacists are playing an important role in the wartime control of venereal diseases, the American Social Hygiene Association announced today in making available to the medical profession a report based on a recently completed survey.

Drugstore counter prescribing for syphilis and gonorrhea has greatly decreased, the Association reports. Forty-six cities in fifteen states were visited, and 716 drugstores studied. Only 11 percent of the drugstores visited offered diagnosis and treatment for conditions presumed to be syphilis and gonorrhea. Thirty-two percent sold remedies on specific request but did not attempt to diagnose, and 57 percent urged immediate and well qualified medical care, and in a large proportion of the drugstores where remedies are stocked and sold, the druggist advised that "self medication is bad and dangerous business."

This survey showed a decided improvement over conditions found in 1939 and 1940. During 1939 under the cooperation of the United States Public Health Service and the American Social Hygiene Association, a similar survey was made in thirty-five cities covering twenty-six states. In these communities, 1,151 drugstores were visited. Tabulation of the results of the interviews showed that in 62 percent of the drugstores visited offers were made to diagnose and treat syphilis or gonorrhea. In 31 percent the persons consulted did not attempt diagnosis but offered for sale a variety of patent remedies, and only 7 percent of the whole number refused to make a diagnosis or sell remedies. Many of the druggists in this small group took the time and trouble to advise the patient to seek adequate medical care and make an honest effort to dissuade him from any attempt of self medication.

The report of the survey was published in "Venereal Disease Information" in January, 1940. It received wide publicity and led to the formation of the Joint Committee of the American Pharmaceutical Association and the American Social Hygiene Association, organized to bring about closer cooperation between physicians and the pharmacists in eradicating syphilis and gonorrhea. This Committee has constantly

urged druggists to follow, with reference to venereal diseases, the principles of ethical practice enumerated below:

1. The pharmacist should make no diagnosis.
2. The pharmacist should not prescribe for patients.
3. The pharmacist should refer patient to physicians.
4. The pharmacist should not sell "patent medicines" and thus encourage self medication of these infectious diseases.
5. The pharmacist should distribute literature of an informational nature regarding syphilis and gonorrhea. Such material may be obtained from health departments and from the American Social Hygiene Association.
6. The pharmacist should cooperate with the pharmaceutical society and official and voluntary health agencies in promoting high professional standards.
7. The pharmacist should stock and sell only reliable products for chemical and mechanical prophylaxis of venereal diseases, and provide reliable information regarding the value and limitations of accepted prophylactics used under approved conditions.

When subsequent soundings were made during 1940 in many of the thirty-five cities originally studied, a decided trend away from the former conditions was discernible. In many drugstores where diagnosis and treatment had been offered, counter prescribing and the sale of nostrums were no longer practiced. In their places many druggists recommended competent physicians and various venereal disease clinics. This trend away from counter prescribing for venereal diseases has continued as proven by the recent 1942 survey.

STATE MATERNAL WELFARE PROGRAM FOR 1943

We are submitting our new program to familiarize all the readers of the Journal with the work of the Illinois State Maternal Welfare Committee. This program is strictly an educational one but has borne fruit in a very satisfactory manner in the past and is worthy of the support and cooperation of all the medical organizations of the State.

I am particularly interested in calling the attention of the President and Secretary of each county medical society to the importance of replacing immediately any county chairman who has died or been called to the service in order that we may keep our organization up to date and carry out our program.

We also want to encourage the continuation of the programs on prenatal care before medical societies and lay groups, as only by a continued active campaign on this all important subject can the proper interest be maintained. We must not lose sight of the fact that this is a medical problem and although we are all required to do more work than under normal circumstances this educational campaign must be continued and if we fail to do this it will be done through some other agency by social workers.

T. B. Williamson, M.D.
Chairman

SUGGESTIONS FOR COUNTY MEDICAL SOCIETIES AND COUNTY CHAIRMEN

Committee on Maternal Welfare of the Illinois State Medical Society feel that the adoption of the following suggestions by the County Medical Societies will lower the Maternal and Infant death rate within our State.

1. More emphasis should be placed on adequate prenatal care:
 a. Monthly visits up to the seventh month then every two weeks — history — physical examination including pelvic measurements — weight and dietary instructions. Laboratory work consisting of urinalysis, Kahn, blood counts including red, white and hemoglobin, should be done, preferably on the first visit.
2. We recommend that each County Medical Society appoint a Maternal and Child Welfare Committee whose duties should consist of:
 a. Investigate maternal, fetal and early infant deaths for constructive study in reducing mortality. Postmortems on neonatal deaths should be encouraged. This investigation to be carried out by the County Chairmen and other physicians appointed by local medical society; all information pertaining to this study be kept in the hands of the Medical Profession.
 b. Have an adequate number of programs

of maternal welfare and pediatric subjects before local society and hospital groups to meet the need of that community.

c. Encourage the educational program among the nurses of the community by such means as moving pictures and special lectures and special invitations should be rendered to attend obstetrical and pediatric programs before medical groups.

d. Encourage any improvement of local hospital facilities for better maternal care.

3. We suggest that the Chairman of the Maternal Welfare Committee be designated as the County Chairman and be responsible for the furthering of this program in his respective county with the cooperation of local Medical Society.

 We suggest that he appoint a permanent Maternal Welfare Committee composed of professional and lay groups to further the program of lay education.

4. Encourage postgraduate work and refresher courses among the physicians.
5. We recommend consultation in all Obstetrical complications.
6. Encourage programs on Maternal Welfare before hospital staff.
7. We recommend that physicians stress the danger of abortions.
8. Avoid indescriminate use of Oxytoxic Drugs especially in first and second stage.

PROTESTS MOVE TOWARD REGIMENTATION

One of the boldest and least defensible moves yet made toward regimentation of doctors and their patients is that recently suggested for the Chicago Board of Health. This proposes that pregnancy be made reportable to the Board of Health as soon as diagnosed. The woman may tentatively select her own obstetrician, but if he fails to please the Health Department, it would remove the woman from his care and place her under the care of some doctor or institution — presumably a clinic, that happened to be in the good graces of the Health Department. There is little to be said in favor of this idea and much to be said against it. It is an unwarranted invasion of personal and family privacy. It would undoubtedly tend to keep pregnant women from consulting a physician until late in pregnancy because many women do not wish the fact of their pregnancy published to the world at large. It would deny, or at least seriously interfere with, the patient's right to choose her own physician. This was a privilege which the Federal Government was careful to respect in furnishing medical care to persons on relief.

For twenty years the Illinois State Medical Society has spent considerable sums of its own money in educating women to consult a physician early in pregnancy so that adequate care could be given. The proposed order would also result in depriving some women of much needed salary, as many organizations will not keep pregnant women in their employ regardless of the fact that the work may be in no way injurious during the early months of pregnancy.

It would make the Health Department the supreme arbiter of obstetrical practice, allowing it to tell the private physician not only what to do and how to do it but also whether he could do it. Doctors would tend to develop a mental stigmatism keeping one eye on the Health Department and the other on the patient. Certainly this is no time to add extra burdens to an overworked profession.

During war time, bureaucrats are inclined to extend their power. In many cases this is unavoidable. We have to surrender some rights that we reserve to ourselves during peace time. At this time with shortage of personnel and more than the usual concern for the health of the civilian population, health departments might be misled by their laudable zeal into issuing orders or adopting policies that would defeat the very ends sought, as is probably true in this case.

At all times, and especially for the duration, the medical profession and Departments of Health should cooperate as closely as possible. Were this proposed order put into effect it would create friction instead of cooperation.

The Chicago Medical Society has already expressed its strong disapproval of the idea.

It is to be hoped that sober second thought will lead the Health Department to abandon this idea.

103rd ANNUAL MEETING ILLINOIS STATE MEDICAL SOCIETY

Palmer House, May 18, 19 and 20, 1943

An Open Letter to the Medical Profession of Illinois

Dear Doctor:

The Council of your State Medical Society got into a huddle to discuss the Pros and Cons of an annual meeting for this coming year. The "Cons" loomed up pretty formidably, to wit:

An all out war on our hands, shortage of doctors throughout the state throwing an over-load on those of us who are still at home, transportation difficulties, gas and tire rationing, etc., etc.

However, the "Pros" won out easily. In the first place, our Government WANTS us to meet at least once a year to keep informed on the newer things in military and civil practice. In the second place, we, you and I, are entitled to a few short days off and away from our daily grind.

This year, your annual meeting in Chicago will be different from any you have ever attended. It will be a combined civil and military meeting. There will be more general sessions devoted to all the newer and more important changes in practice and therapy. One day will be dedicated to the Army and one to the Navy.

Come and meet Generals and Admirals, and even more important — your buddies and neighbors now in uniform.

Robert S. Berghoff, M.D.
Chairman, General Arrangements.

WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

Dear Members:

As we embark upon another year in the history of our Auxiliary and our home life, we find many changes. Let us be prepared to meet these changes and responsibilities.

Our doctors in service believe more than ever that we, The Woman's Auxiliary, are behind them whether at home or abroad. We may not grow in numbers during this crisis, but as a body there is strength to carry on. There can be no excuse for lack of interest in the auxiliary work, if we cooperate and plan carefully together.

I appreciate your expressions of interest and cooperation; your faithful promotion of our project, Hygeia, is of great benefit to the Nutrition Programs; your bulletin subscriptions prove your interest in your sister auxiliary activities; your donation to our very own Benevolence Fund; your extra contributions as auxiliary members to our camps and men in service — at home and abroad; for these reasons, I feel Illinois will come through with flying colors.

For all this I am truly grateful and may the joys of your work and home never diminish until peace shall come once more to bless our homes and our hearts are free to rejoice.

Season's Greetings to all.

Your President,
Mrs. W. J. Wanninger (Mrs. Hilda B.)

CHICAGO CONFERENCE on THE HEALTH OF INDUSTRIAL WORKERS

Palmer House
Chicago, Illinois
January 13th, 1943

Under the auspices of:

CHICAGO MEDICAL SOCIETY
ILLINOIS MANUFACTURERS' ASSOCIATION
ILLINOIS STATE DEPARTMENT OF PUBLIC HEALTH
Division of Industrial Hygiene

In cooperation with:

ILLINOIS STATE MEDICAL SOCIETY
Committee on Industrial Health
CHICAGO BOARD OF HEALTH
CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY
CHICAGO INDUSTRIAL NURSES' CLUB
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION
Chicago Chapter

Palmer House
Grand Ball Room
Chicago, Illinois

AFTERNOON SESSION — 2:30 P. M.

Presiding: Dr. Frederick W. Slobe, Chairman
Industrial Health Committee
Chicago Medical Society and
Illinois State Medical Society

2:30 "The Urgent Need for Better Local Industrial Health Organization"
Dr. Carl M. Peterson
Secretary, Council on Industrial Health
American Medical Association
Chicago, Illinois

3:00 "Why Do Employees Stay Away From Work and What Can We Do About It?"
Dr. Clarence D. Selby
Medical Consultant
General Motor Corporation
Detroit, Michigan

3:30 "How The Small Plant Can Conduct A Health Program"
Dr. Milton H. Kronenberg
Director of Industrial Hygiene
Illinois Department of Public Health
Chicago, Illinois

4:00 "Problems of Employing the Physically Handicapped"
Dr. Fred H. Albee
New York, N. Y.

DISCUSSION:

Opened by Dr. Joseph H. Chivers, Medical Director, The Crane Company

"The Employer's Viewpoint"
Mr. George P. Wardley
Manager, Industrial Relations
Carnegie-Illinois Steel Company

"The Industrial Commission's Attitude"
Mr. Alfred Borah
Chairman, Illinois Industrial Commission

"Medico-legal Aspects"
Mr. Frank R. Peregine

Palmer House
Red Lacquer Room
Chicago, Illinois

DINNER MEETING — 6:30 P. M.

Presiding: Dr. James P. Simonds, Acting President, Chicago Medical Society

Toastmaster: Mr. Sterling Morton, President Illinois Manufacturers' Association

Address: "We Have a Job To Do To Improve the Health of the Industrial Worker"
The Honorable Dwight H. Green
Governor of Illinois

"The Care and Feeding of Executives"
Dr. Walter Alvarez
Mayo Clinic
Rochester, Minnesota

THE WOMEN'S FIELD ARMY OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER is inaugurating a new war service program to consist of a Health Education Unit, a Medical Aide Unit and a Hospital Unit. Several surgical dressing units have been organized in the Chicago area, the largest unit meeting at the Y.W.C.A. Loop Center where business girls assemble every Wednesday evening to make dressings for the indigent cancer patient. Not only is this contributing a service to the Visiting Nurses Association who are at present the recipients but since these dressings are being made of old linens collected by the members of the units, a great saving in gauze for hospital use will result.

The State Commander of the Women's Field Army, Mrs. Arthur I. Edison, reports that since the keynote of the program continues to be control of cancer through education, the interest evinced by those members of the surgical dressing units in the objectives of the Women's Field Army is most gratifying.

The State Headquarters of the Women's Field Army is located at 48 West Division Street, Chicago, and an appeal for freshly laundered white materials is being made so that more units may be organized to assist local hospitals.

Tuberculosis contracted or aggravated because of working conditions is to be considered compensable, but in workman's compensation laws greater consideration should be given to precipitating causes than to predisposing factors. Large numbers of persons with inactive or mildly active tuberculosis are able to work in our factories without becoming ill because working conditions are favorable. But occupations such as that of policeman or soldier, involving bad hours, undue exposure to the elements and other unhygienic conditions, may definitely initiate tuberculous activity. A. Licurzi, Rev. Asoc. med. argent., Nov. 15-30, 1941.

Tuberculosis is increasingly becoming a disease of older, occupied men. So much emphasis has been placed on tuberculosis as a serious disease of girls and young women that its greater havoc among men has not received the attention that it deserves. As a result of the more rapid decline of tuberculosis in females in this country there are today 132 deaths among males to every 100 deaths in females, and only at ages ten to thirty is the mortality higher in females. From The Modern Attack on Tuberculosis by Henry D. Chadwick, M.D. and Alton S. Pope, M.D.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

The first year of war is behind us, and there is little reason for dismay over our accomplishments. Industry has shown its capacity to produce; management again, looms upon the horizon and erases in a brilliant stroke much of the criticism levelled against it in the past few years. In fact, this war is one of industry, transportation and management, and the record is one of geniuses at work — long hours of work. Let us remember that this giant industry and transportation system was developed in the terrible days of rugged individualism. They come back to us today to bring us victory. There could be no industry, no management, no transportation without labor. That industry in the past was guilty of mal-treating labor socially, economically and politically cannot be denied. That labor once organized, becoming all powerful, retaliated and exercised proof of its social, economic and political power. Quite naturally, czars of labor arose, just as czars of industry had before them and extremes were erected. It is natural that labor is more unwieldy than management because of their large number. Labor has proven itself to be patriotic and democratic under many trying circumstances. Industrial American is a product of management and labor. War America is management and labor producing and transporting necessary war materials to defeat the Axis. If the war can evolve harmony, social and economic understanding between capital and labor it will be of second importance to defeating the Axis. They are working now for a common cause. Let them remember, that we are in the final analysis fighting to save the United States, and so let us be prepared to save it after the war is won.

The Navy off to a bad start has acquitted itself in the traditional American way. The various units of our Army have demonstrated that we have capable military leadership and that our soldiers have that American "Stuff" that wins wars. Wars cannot be won, nor home morale maintained without food. The farmers have kept us adequately fed up-to-date with the odds stacked against them. Selective service (a tremendous job), and the man power commission (another tremendous job) attempting, I suppose, to work together have not demonstrated any great capacity for executive ability or actual knowledge of the task at hand. Perhaps the Army Chiefs were greatly at fault in asking for an army larger than we could properly equip, transport and maintain. Whatever, the cause and regardless of who was responsible it caused a dislodgement between farm production, war material production, and caused an unfair ratio of wages between farm industrial labor. It is gratifying that in the first year of the war we are endeavoring to correct these hurried errors of judgment. I hope Mr. McNutt is the man for the job. Can he turn from politics and his future political chances and attack the job? If he has the courage to do that, he must then demonstrate that he has the real ability for a big job and a troublesome job. If he can do it — then his political future ought to be safe. Every American should lay politics aside and render every assistance to Mr. McNutt in this task that means so much to us. What applies to Mr. McNutt should apply to Leon Henderson's suc-

cessor. If Senator Brown is the man chosen, he is a man attacking a much muddled job. The voters of Michigan disapproved of Senator Brown. There is little that we can find in his background to qualify him for the job. If the President appoints him he must assume the responsibility for a lame duck politician. Again, let us hope that his judgment is good and that he sees in this man qualities of executive ability, and knowledge of his task that has yet to be uncovered.

This first year of war has witnessed the medical profession answering the call for efficient medical service for our armed forces and the people at home. While there will always be some criticism of the methods used I think we must agree that in general it has been handled well. Certainly from the standpoint of efficient service to our armed forces it is a magnificent improvement over World War I.

Let us turn to the problems of peace. There are many who think we should not talk about peace until the war is won — on the theory that it tends to destroy our war effort. Others maintain that unless we lay plans for peace now that we will be caught in hasty negotiations, and that permanent peace will be lost. The government now has a commission formulating plans for peace. The members are Mr. Hull, Secretary of State, Weller, Berle Jr., Dean Acheson, Dr. Hubert Feis and Leo Posvolsky. The American people should be acquainted with their formula. They should know the background of the members. What are their qualifications to formulate a peace and perpetuate that peace for the entire world? Summarizing briefly from an article in Readers Digest - Condensed from the American Mercury by Kingsbury Smith the formula is as follows:

"The plans rest on this basic idea: that the countries now bound together under the name of United Nations shall form the organization of a Better World Order, which will have two main objectives:

To maintain the world peace through the compulsory disarmament of the Axis powers and the policing of the world.

To make membership in the association so beneficial that no nation can afford to remain outside.

The economic benefits to be offered the other nations will include:

1. A system of open trade among the member nations, guaranteeing nondiscrimination in commercial relations.

2. A fair distribution to all member nations of sufficient raw materials to meet their reasonable peacetime needs.

3. American financial assistance for essential enterprises, such as public works programs, in those countries which do not possess the capital for such development.

4. Strict regulation of the supply of commodities among member nations so as to protect the interests of consumer countries.

5. A cooperative movement for the rapid expansion of trade among the member nations to produce materials for markets created by human needs, as in China and India.

In the sphere of political security, the United States will agree to assist those member states which are engaged in forcible resistance to unprovoked aggression. All other member states will be pledged to do likewise.

In return for these benefits, members must fulfill the following conditions:

1. Guarantee to their citizens certain fundamental human rights such as freedom of speech and religion, freedom from terror, and freedom from want.

2. Solemnly promise to settle all international disputes by peaceful methods of arbitration, submitting such disputes to an international court of justice when direct negotiation fails.

3. Agree to drastic limitation of armaments under strict international control. Any nation which refuses to fulfill these conditions and which threatens a member state with aggression will immediately be subjected to trade discrimination within the association. Behind the economic boycott will stand the power of Anglo-American naval and aerial might, and, it is hoped, the Russian army and air force.

The planners realize that if this better-world-order idea is to be successful it must include the vanquished as well as the victor nations of this war. They believe that, to obtain the co-

operation and eventually the support of the defeated Axis countries, there must be a long armistice period — three to five years — during which armies of occupation will maintain law and order in the vanquished nations. This prolonged transition from war to peace is to be a cooling-off period for the passions and hatreds on both sides.

The postwar planners hold that one of the great mistakes made by the victors in the first World War was to permit statesmen and military leaders to write the peace while they were still literally in the heat of battle. Those whose minds have been concentrated on the destruction of the enemy can hardly be expected to propose a sane peace at the moment of their triumph. The danger of revolutionary or revenge movements in the beaten nations must also pass, and their people must be convinced of the good intentions of the United Nations before the armies of occupation can be withdrawn.

The immediate objectives during the armistice period are:

1. To disarm Germany, Italy, Japan and their satellites completely.

2. To prevent revolutions in the defeated countries.

3. To arrange swift relief measures, including food and clothing, for the people of all the devastated war areas.

4. To avoid the demobilization of the armies of defeated nations until provisions have been made for their return to peaceful employment.

5. To make sure that the cessation of hostilities will not be followed by a continuation of economic warfare.

6. To assist in the establishment of trustworthy governments in the defeated countries, which will maintain law and order and agree to cooperate with the United Nations in the establishment of the better world order."

I gather from this that the United States is going to assume the leading role — hoping for the aid of the British Empire and Russia. We are going to assume the major role in dictating the peace, in feeding the world, in policing the world, in rehabilitating the world. Finally, we are going to pay the major portion of the bill. One may ask — why do we think that we should do this and if we should how can we do it? One must assume that we set ourselves up before the world as a perfect democracy and that for many years we are going to continue to be a perfect democracy. We are saying to the world that we have no selfish men in America, that all of our politicians are honest men, that all of our industrialists are honest men, that all of our labor leaders are honest men, that all of our halls of justice are filled with honest men. Our house is one of law and order of morality, of sobriety, of love and happiness among our family circle; free from fear, free from want, free from jealousies, free from the desire for power, free from economic selfishness. Our country is free from racial and religious intolerance. Now having this perfect house we are going to build similar houses all over the entire world, and, we are going to set-up a great machine, political, social, economic and military and we are going to force the world to take our architect and architecture. A great experiment as Mr. Smith says. They say that it is cheaper than war. Perhaps it is, but it is war itself. Perhaps the American people should be acquainted with what our government proposes to do and perhaps we should have something to say about it. State departments as far as my recollections are concerned are not always well informed, practical or even endowed with good horse sense.

R. K. Packard, M. D.
Chairman,
Committee on Medical Economics

BERIBERI HEART IN 4 MONTH OLD INFANT

The daily diet of the average young infant is deficient in thiamine hydrochloride or vitamin B_1 and should be supplemented with that vitamin, Henry Rascoff, M.D., Brooklyn, advises in *The Journal of the American Medical Association* for December 19 in a report of a 4 month old infant who was on a limited diet of boiled human milk for two months and subsequently developed a beriberi heart (enlarged) which diminished in size with thiamine hydrochloride treatment.

Medicine's Role in the War Effort

"It is of the utmost importance that the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians, immediately has the name of any doctor who really is willing to be dislocated for service, either in industry or in over-populated areas, and who has not been declared essential to his present locality. This is necessary if the medical profession is to be able to meet these needs adequately and promptly. We urgently request that any physician over the age of 45 who wishes to participate in the war effort send in his name to the State Chairman for the Procurement and Assignment Service in his State."—Frank H. Lahey, M.D., Chairman Directing Board Procurement and Assignment Services for Physicians, Dentists and Veterinarians.

INTERNS AND RESIDENTS FOR 1943-1944

According to the Procurement and Assignment Service, Washington, D. C., the expansion of the Army and Navy in 1943 and 1944 will demand the services of such large numbers of young physicians that a critical appraisal of all positions held by interns and residents and fellows is necessary.

Interns. — Graduates of medical schools who hold commissions in the Army or the Navy will be allowed twelve months' deferment of active duty for the completion of an internship. This makes it necessary that internships begin immediately on graduation. Medical school graduates who are deferred by Selective Service may, under the Selective Service regulations, have their deferments continued through one year of internship. Medical school graduates who on account of sex, physical defects or other causes are not subject to induction or likely to be reclassified by Selective Service are not officially restricted as to the length of internships which they may serve but they too have a responsibility to make themselves available as early as possible for civilian services which contribute to the war effort.

Residents and Fellows. — Interns who have already served a year of internship must at the end of this 12 month period, be considered as residents for the duration of the war. This eliminates internships of 18 or 24 months during the present emergency. Although the Army and Navy appreciate the importance of graduate training in the various specialties of medical practice, they do not feel that they can at the present time defer calling interns to active duty in order that they may continue specialized training in civilian hospitals. Therefore, the only justification for the continuation of residencies and fellowships during the war is that they are essential for the provision of adequate medical care for the hospital patients or for the clinical training of medical students. In view of this situation, there are several principles that must be followed in the selection of residents or clinical fellows for 1943.

First, the minimum number of residencies with which each hospital can function must be determined. For 1942 the Directing Board of the Procurement and Assignment Service stated that in general this number should be less than 50 per cent of the number of residents that these hospitals had before the war. For

1943 this number must be reduced still more.

Second, having determined the minimum number of residents that are essential, these should be selected from the following groups in order:

1. Physicians who for physical or other reasons cannot qualify for service with the Army or the Navy.

2. Present interns or residents who are deferred by Selective Service. Preference in this group should be given to those who have been deferred in class IV-F and class III-A or III-B and maintain a bona fide family relationship with wife and/or children.

3. Present interns who hold commissions in the Army or Navy. No requests for deferment of individuals in this group should be made until the possibilities of filling minimum essential residencies from individuals in groups 1 and 2 have been exhausted. It is impossible at the present time to give assurance that interns who hold commissions will be deferred. The Surgeon General of the Army and the Surgeon General of the Navy have assured the Procurement and Assignment Service of all possible cooperation in meeting this situation. On the other hand, the urgent needs for medical officers in this age group and the necessity of securing the authorization of the War and Navy department to hold men with commissions in an inactive status beyond one year of internship make it imperative that hospitals make every possible effort to fill essential residencies and fellowships without depending on interns who hold commissions or those who might be subject to induction by Selective Service.

In case it becomes necessary to request deferment of active duty for any individuals in this group, such requests should be submitted to the state committee of the Procurement and Assignment Service.

Approval of these requests must further be concurred in by the chairman of the Corps Area Committee and the representatives of the hospital and medical education committees.

APPEALS PROCEDURE

The directing board of the Procurement and Assignment Service has issued the following appeals procedure for individual physicians, dentists and veterinarians, and for employers thereof, to all state chairmen:

The responsibility for the initial decision as to whether an individual physician, dentist or veterinarian is to be considered essential in his present situation or available for service elsewhere rests with the respective state committees. The local, county or district committees may serve in an advisory capacity to the state committee, but the authority to make decisions rests with the state committees.

If an individual physician, dentist or veterinarian or the institution employing him does not agree with the decision of the state chairman as to his availability for service elsewhere, the individual or his employing agency may request a reconsideration of the decision by the state committee. If the original opinion is upheld by this committee, appeal may be made to the corps area chairman and his committee. In this event the corps area chairman should request all information available from both the state committee and the person himself, and the corps area committee should appraise the situation and render a written decision to both the state chairman and the individual concerned.

If the decision of the state committee is still sustained by the corps area committee, the individual concerned or his employer has the further privilege of submitting his case to the central office of the Procurement and Assignment Service. When this is done the central office will assemble all pertinent information from the individual, his employer and the state and corps area committees concerned and present this for action to the directing board or to a special committee of the board in case a decision is necessary before the next board meeting. In such circumstances this committee shall report the case and its decision to the board at its next meeting.

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ADMIRAL McINTIRE RENOMINATED SURGEON GENERAL

The President of the United States has renominated Rear Admiral Ross T. McIntire to

be chief of the Bureau of Medicine and Surgery of the U. S. Navy. Admiral McIntire graduated from the Willamette University Medical Department, Salem, Oregon, in 1912, and has been a member of the Navy Medical Corps since 1917. He was first appointed Surgeon General of the Navy in 1938. According to the *Army and Navy Journal,* Admiral McIntire declared a few days ago, in a radio address in answer to criticism and newspaper items concerning the large number of doctors being ordered to military service, "When the Marines go into battle, our people go with them, so when I hear statements made that perhaps we have too many doctors to care for our fighting men I want you to know that this is not so. We are only adequately furnishing medical personnel so that the lives of the wounded men who may be your sons can be saved. I can assure you that there will be no waste of medical personnel."

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CIVILIAN DEFENSE

OFFICE OF CIVILIAN DEFENSE USES NEW METHOD OF ADMINISTERING MORPHINE

Because of the critical shortage of tin, the U. S. Office of Civilian Defense has been unable to procure syrettes for administration of morphine by physicians of Emergency Medical Service. To meet this serious difficulty, a new device using glass and plastic has been developed.

This device consists of a small, sealed glass ampule containing ¼ or ½ grain (0.016 to 0.032 Gm.) of morphine in solution. The solution is under sufficient pressure to eject the entire contents. A piece of transparent plastic tubing encloses the neck of the ampule and connects it to the hub of the needle. The shaft of the needle is enclosed in a small glass tube, to which is attached a stylet. At the hub of the needle within the plastic tube is a small filter.

Following is the method of using the ampule:

1. The body of the ampule is grasped in the right hand.

2. The glass tube protecting the needle is withdrawn by a twisting and pulling movement of the fingers of the left hand.

3. With the needle pointing down and the body of the ampule vertical to the skin, the needle is inserted by jabbing it under the skin.

4. When the needle is in place, and with the ampule vertical to the skin, pressure is exerted with the thumb and two fingers on the plastic tubing to break the neck of the ampule. It is important that the ampule be held vertical to the skin, in order that morphine may not be lost by improper technic.

5. The pressure within the ampule ejects the contents. The filter prevents glass splinters from clogging the needle.

6. When the ampule is empty, the needle is withdrawn and the whole device is discarded.

This ampule will be supplied in connection with the medical supplies and equipment that will be distributed to communities for equipping mobile medical teams and casualty stations organized in the Emergency Medical Service. The actual distribution of the morphine supply will be handled by the U. S. Commissioner of Narcotics and will be primarily under his control at all times. The amount of the drug being obtained is limited, so that initial distribution can be made only to those cities in the target areas that are entitled to receive other Office of Civilian Defense supplies and equipment.

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WOMEN RESERVISTS AT NAVAL MEDICAL CENTER

The Naval Medical Center at Bethesda, Md., has taken the first Women's Reserve Officers into its staff. Lieut. (j. g.) Cornelia Gaskill is enrolled in an indoctrination course at the Naval Medical Center preliminary to duty as a medical officer with the Women's Reserve. Lieutenant Gaskill, who is the wife of an army doctor, gave up a busy practice in New York to accept a commission. She was graduated from Cornell University School of Medicine in 1937. Lieuts. (j. g.) Kathryn Hyde and Dorothy Oborne have reported for duty on completion of their thirty day training course at U. S. Naval Training School, Smith College; the former is a medical illustrator and the latter is a medical technician. Miss Hyde graduated from the University of California and took postgraduate study at Johns Hopkins University. Miss Oborne, a graduate of Pembroke College at Brown University, was a medical technician with a group of New York physicians before entering the Women's Reserve.

THE NATIONAL ROSTER OF SCIENTIFIC AND SPECIALIZED PERSONNEL

Senior and graduate students of chemistry, physics, engineering and other specialized fields were urged, November 24, by the National Roster of Scientific and Specialized Personnel to register with the roster, writing to Dr. Leonard Carmichael, Washington, D. C., the director, mentioning the fields in which they have training or knowledge.

Registration with the National Roster is not to be considered application for employment, although many of those registered have received offers and 140,000 men and women have thus been referred to prospective employers, particularly to aid in war production and research. Many industries needing technicians consult the local USES offices. The National Roster is constantly used to advise selective service boards about the importance of work being done by civilian technicians of draft age.

The National Roster, which is a part of the War Manpower Commission, has listed and punch-card-indexed more than a half million names in more than sixty specialized occupations, covering everything from genetics to housing and radio broadcasting. The names filed include the most famous scientists in the country as well as the most recent college graduates in the various scientific courses.

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AIR AMBULANCE SERVICE

Speaking on the radio from Cairo, Egypt, Denis Johnstone gave an account of the air ferry ambulance service of the Royal Air Force, which he said was saving many lives. This is a shuttle service of transport and ambulance planes, which during the recent campaign flew army casualties and enemy wounded from the forward areas back to the base hospitals. They have been especially useful in cases requiring blood transfusion. These air craft carrying the wounded are unarmed and unescorted and fly by day and by night, sometimes landing along a flare path at the end of their journey like bombers coming in from a night operation. It thus becomes possible for the seriously wounded to be transported hundreds of miles within a short time to adequate medical aid and hospital facilities.

RUSSIAN WAR RELIEF

During the first year of operations of Russian War Relief, Inc., the shipments to Russia and goods being purchased reached a total value of $4,067,703.91. Edward C. Carter, president of Russian War Relief, announced on November 12 that supplies are being regularly sent to Russia in Soviet ships at no cost to Russian War Relief, which spends all its relief funds for American products and sends no money to Russia. The total of contributions to this effort to help wounded Russian soldiers and orphans and refugees in the Soviet Union is increasing each month and the supplies shipped are reaching their destination; 90.4 per cent of the supplies have been medical supplies, 6 per cent clothing, knit goods and blankets, 3.5 per cent foodstuffs and seeds, and one tenth of 1 percent miscellaneous items. The head of the Russian Red Cross, Sergei Klesnikov, and Prof. Sergei Spassokukotsky, Soviet surgeon, recently cabled their gratitude to the American public and Russian War Relief.

USE OF POOLED BLOOD PLASMA AND SERUM

In pools of a sufficient number of samples of plasma or serum obtained from donors belonging to all four blood groups the amount of substances, known as anti A and anti B agglutinins, which might cause serious reactions is reduced to such a low level that no danger can result to patients from injection into a vein of even large therapeutic (treatment) doses from such pools, William Thalhimer, M.D., New York, declares in *The Journal of the American Medical Association* for December 19. His statement is based on his own investigations as well as an analysis of data of other investigators and is in answer to several recently published opinions questioning such a procedure on the basis of the possible danger from the injection of incompatible agglutinins or incompatible A or B substances.

The widespread dissemination of tuberculosis is common knowledge, but the toll of lives taken is not always realized. In the United States alone, since 1900, a comparatively short span of life after all, more than four million have succumbed prematurely to the tubercle bacillus. Godias Drolet, in Clinical Tuberculosis, Edited by Benjamin Goldberg, M.D.

Original Articles

THE TREATMENT OF SOFT TISSUE INJURIES

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It appears to be the wish of our Government to promote and clarify the general understanding of physicians concerning the care of wounds. The conservation of manpower both at home and in the armies over-seas demands this. Hence, this review of a subject which, though familiar, is of timely interest.

Although the same principles apply whether a wound is incurred in civil life or in the field or battle, because of the fact that there are usual differences such as the extent of destruction of the tissues, the time elapsed before thorough treatment can be given, and the types and number of contaminating bacteria — the treatment may vary considerably; hence, this discussion will be divided into two parts, first, wounds incurred in civil practice and, second, war wounds.

WOUNDS IN CIVIL LIFE

Diagnosis:- This is essential in order that treatment may be correct. Has a tendon or nerve been severed, a muscle cut, a joint opened, is there an associated fracture, has there been a blood vessel injury? The history of the injury often gives valuable clues. X-rays should be used freely — a punctured wound over the tibia may actually be a serious compound fracture. The presence of radio-opaque foreign bodies will similarly be disclosed. Careful testing for nerve and tendon function should be performed. It should be remembered that there is no way, at the time of the first examination, to distinguish between nerve severance and physiological block due to pressure or contusion. One should search for the presence of associated injuries with particular reference to the skull and abdomen as such injuries may not be immediately apparent.

The presence of blood vessel injuries should be tested by the peripheral pulse and distal circulatory changes recalling that ischaemia may result from spasm, compression, or severance of a vessel. Of greatest importance, of course, is the diagnosis of the degree of shock.

Treatment:-

First Aid:-

If at the scene of accident or at the office, if the patient is going to the hospital, the first-aid treatment should be nothing more than arresting hemorrhage and the applications of sterile or clean dressings and a bandage. The implantation of one of the sulfonamides is valuable if any delay in hospital care appears inevitable.

Shock:-

Prevention and treatment come first. Operative treatment of wounds is delayed until the patient's condition improves. Hemorrhage can usually be controlled by pressure of gauze and bandage; should a tourniquet be needed, the blood pressure cuff, if available, is the best method.

Immediate Care:-

All wounds are emergencies, assuming shock is not great enough to cause any delay. All wounds are contaminated by bacteria but

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not infected until the bacteria have multiplied and invaded the tissue; this usually requires 6 hours or more, hence:

"The Golden Period":-

Within the first 6 hours, the sooner the better. This period has been increased somewhat by the use of sulfanilamide. An exception to the above consists in the legitimate excuse for some delay in order to secure adequate professional and hospital care.

Soap and Water Cleansing:-

Assuming the patient is in the hospital operating room, after filling the wound with sterile gauze, the surrounding skin is shaved, grease demoved with a suitable solvent, and the skin thoroughly scrubbed with soap and water. If this scrubbing is thorough there is no need for the application of one of the antiseptic tinctures to the skin although this may be done if desired. The wound is then irrigated and thoroughly though gently scrubbed with a solution of mild soap and water using cotton or soft gauze. The surgeon's gloves are frequently washed during this procedure and frequent changes of cotton and gauze during the scrubbing removes more and more contaminated material from the wound. For the more severe type of injuries, from 20 to 30 minutes time, and many gallons of solution may be needed. After this the entire wound is irrigated with normal saline solution. This cleansing requires no antiseptics which are to be avoided because of the danger of injuring the tissues.

Debridement and Excision:-

Debridement in its true sense refers to the "surgical toilet" which includes enlarging the wound, exploring, and removing foreign bodies and blood clots. Excision refers to the partial or complete excision of the wound area. In some wounds debridement alone is sufficient, in others debridement and partial or complete excision; in war wounds complete excision is always done in cases seen early enough. One should not hesitate to extend the wound by longitudinal excisions at each end in order to better explore and expose all tissues. It is important to excise all devitalized tissue. Avoid excising skin on the face and minimize on the hands. Muscle is excised until healthy, red, bleeding, contracting muscle appears. If the nature of the wound permits, try to convert a lacerated wound into an incised wound. The instruments should be kept clean by wiping them off frequently with Azochloramid solution on the instrument table; use a sharp knife or sharp thin-bladed scissors. The wound should be kept moist with warm saline, flooding the wound with the same occasionally. Loose tissue fragments float up and can be excised. Bone fragments are kept if they have a periosteal attachment. Chisel bone ends to create a clean surface. The wound should look clean and fresh after excision, creating virtually a new wound, the exposed surface of the entire wound being trimmed away. Gentleness should be used throughout. Small hemostats should be used, grasping the bleeding points only. Sponging should be done gently with no wiping or rubbing with the gauze. If conditions are favorable, the suture of tendons and nerves is performed at this time.

Primary Closure:-

This is the ideal method and should be used when favorable factors exist such as early treatment, successful excision performed, and a favorable environment in which the wound was incurred (industrial environment is usually favorable). Such closure refers chiefly to skin closure; the skin should be approximated but never sutured under tension, interrupted sutures being used. Lateral relaxing incisions may be needed to allow this. The interior of the wound should not be closed by layers as this will cause internal tension. No buried sutures or, few at most, should be used. An occasional interrupted suture may be needed to eliminate dead spaces and for loose approximation. There are exceptions to this rule such as in the hand. In general, fascia is not sutured except where ample room exists and then a few loose interrupted sutures may be used if there has been relatively little tissue disruption.

Hemostasis:-

All bleeding points must be ligated to avoid post-operative hematomas, a potent source of delayed healing, wound irritation, and infection. Mass ligations of tissue must be avoided.

Elimination of Dead Spaces:-

This must be done to avoid pockets of serum and blood. This principle may seem inconsistent since we have just said that most wounds should not be meticulously closed in layers. Post-operative pressure dressings will accomplish this because they keep the tissues in contact. Traumatic edema yields a similar effect but we wish to prevent such edema as much as possible.

The Tourniquet:-

This may be needed, especially if tendons or nerves are to be sutured or if bleeding is copious. If so, always use a blood pressure cuff pumped up to 250 mm. of mercury, releasing it when the operation is completed so that all bleeding points may be ligated, then re-applying it, not releasing it again until the operation is finished and the dressings, bandage, and splint are applied.

Suture Material:-

The choice of suture material is important. Cat-gut is a potent source of wound reaction and infection and, if used, the smallest sizes possible are advised. There should be no large knots. Cotton (sizes 30-90) and fine stainless steel wire (size 36) are the best and this is particularly true in contaminated wounds. They are applicable to the suture of almost all types of tissue including tendons and muscles. Interrupted sutures are the rule when these materials are used. Cotton is excellent for ligating small bleeders but silk, being more elastic, is better for the larger vessels. Fine silk, of course, is used for nerve suture. In the order of least tissue reaction caused, the following ratings may be given: stainless steel wire, cotton next, then silk, and then cat-gut. Interrupted sutures of wire and cotton are also excellent for skin.

Implantation of Sulfonamides:-

Sulfanilamide is, perhaps, the most widely used. It should be applied by means of a sterile shaker or atomizer in finely divided form, no lumps of same being permissible. It yields a very high local concentration and is absorbed so slowly that the blood level remains very low. It causes very little, if any, retardation of wound healing but may cause some retardation in skin union so it should not be used on the skin edges. There have been some reports indicating increased fibrosis following its use in tendon suture. However, its bacteriostatic action appears far greater in value than any deleterious effects so far reported. After all, one of our main objects is to prevent wound infection and for this reason the sulfonamides appear indicated in the treatment of contaminated wounds. Small wounds need only a few grams whereas extensive wounds may require up to a half ounce. It should be recalled that the sulfonamides appear in joint fluid and bursal contents after being administered by mouth. If large quantities are implanted, and always when taken by mouth, one should observe carefully for toxic reactions.

Pressure:-

This deserves much emphasis and is a very important part of the treatment. Adequate pressure minimizes wound swelling due to venous stasis and hematomas. It prevents the "white bleeding" (exudation of lymph into the tissues), eliminates dead spaces, aids splinting, and suppresses excessive granulations. After the usual flat dressings, abundant gauze fluff dressings or mechanics' waste is applied, followed by an elastic bandage.

Drainage:-

This is best avoided in most instances.

Splinting:-

After the elastic bandage is partially applied, use the remainder of the bandage to incorporate the splint. If a tourniquet has been used, it is now released. Rest is essential as it reduces the danger of infection and promotes healing. Rest is an important factor in the success of the Orr Method

of treating osteomyelitis and compound fractures by mean of the clost plaster cast. Lymph flow is localized and retarded while nature forms a protective wall. Manipulating the part or changing the cast too soon causes a flare-up in temperature and other signs of systemic absorption.

Recapitulation of Steps in the Treatment of Wounds by Ideal Primary Closure:-

1. Immediate care (or within 6 hours).
2. Thorough soap and water cleansing.
3. Debridement and excision.
4. Use of cotton or stainless steel wire for suture material.
5. Accurate hemostasis.
6. Avoid deep suturing and layer-by-layer closure.
7. Implantation of sulfanilamide or similar chemical.
8. Avoid tension on soft parts and skin; use interrupted sutures.
9. Avoid drainage.
10. Pressure dressings.
11. Splinting.

Primary Skin Grafting:-

Where the loss of skin exists or attempted closure causes too much tension, the area should be covered by a graft. The split-skin graft (Blair) is usually applicable. The operation proceeds as above up to the time the graft is applied, the graft being carefully sewed in place with fine silk. Sulfanilamide powder is dusted on before the graft is applied. Fine-meshed bandage-grade gauze impregnated with 5% xeroform or 5% sulfathiazole in petrolatum is applied in a single layer over the graft. Then a pressure dressing and splint as described above are applied. Whole-thickness grafts are used where deeper areas are exposed such as over tendons and joints. Measure the size carefully and cut the exact pattern, trim away all the subcutaneous fat, and suture in place as described above. Skin flaps, etc., may be needed for more extensive defects. The sliding of adjacent tissues over the wound by under-cutting each side may be done, followed by grafting the defect on each side.

After-care Following Primary Closure:-

Cross infections in hospitals from dust, respiratory tracts of physicians, nurses, internes, and bed linens should be avoided. Dressings should be changed by the use of instruments and operating room masks should be worn. If the wound is correctly dressed and splinted it should be left alone for 10 to 15 days. Temperature and pulse should be carefully watched. Sulfonamides may be given by mouth. Blood transfusions may be needed and medication for secondary anemia. There should be a high vitamin administration, especially a high ration of Vitamin "C". A high protein diet should be given and intravenous plasma for hypoproteinemia may be indicated.

Secondary Closure:-

When conditions are somewhat unfavorable, skin sutures may be inserted at the time of the operation but should be left untied and the wound observed for 3 or 4 days. If everything is favorable at that time, the sutures may be loosely tied. Later partial closure is sometimes done in 10 to 14 days. Wound smears and cultures furnish a knowledge of the bacterial flora and are of definite help in ascertaining the safe time for secondary closure.

Unfavorable Cases Which Cannot Be Closed:-

The principle of avoiding edema is fundamental. In addition to that resulting from trauma and infection, edema definitely results from the hiatus caused by the wound due to the lack of tissue support. Hence the supporting of the wound and immobilization to give complete rest.

Packing Wounds:-

Plain vaseline gauze is used or vaseline gauze with 5% sulfanilamide or cod liver oil. This gives the tissue support and replaces the space where the tissue was lost, thus eliminating dead spaces. However, immobilization is not perfect when the wound is packed.

Soft Pressure Dressings, Elastic Bandage, and Splinting:-

These principles apply as previously emphasized.

Closed Plaster Cast Method:-

The closed plaster cast is applied over the skin, only being padded over the bony prominences, no dressing being applied over the wound. Absolute pre-requisites are com-

plete excision of the wound within 6 to 8 hours and certainty as to an adequate blood-supply. Elevation is very helpful.

The Carrel-Dakin Method:-

Where excision is impractical or imperfect, the Carrel-Dakin method gives free drainage and its chief value is that infection rarely results. However, there is no tissue support and usually poor immobilization. Azochloramid solution is very useful in this method.

Antitoxin:-

1500 to 3000 units of tetanus antitoxin are given, together with mixed gas—bacillus antitoxin when indicated. In extensive injuries a single therapeutic dose of gas-bacillus antitoxin is better than the usual prophylactic dose.

Local Applications:-

One of the sulfonamides is usually indicated. The powder may be implanted directly in the wound or it may be incorporated in vaseline. A mixture of 10% sulfanilamide in urea has been advocated by some; others advocate cod liver oil, allantoin, urea, tissue extracts, antivirus, sulfydryl, etc. However, with the exception of the sulmonamides, these special preparations and medicaments are relatively unimportant as compared to the fundamental principles enumerated above.

WAR WOUNDS

In war, explosive shell fragments and in civilian bombings, secondary missiles of brick, glass, and wood, cause much tissue destruction. It is this tissue mutilation and necrosis that is the important factor in distinguishing war wounds from the usual type of wounds seen in civil practice.

As to the time interval before operation, under 6 hours is generally preferred but it may be reasonably safe at times up to 12 hours. The type of operation varies according to the time elapsed. Some delay is definitely warranted in order to get the patients transferred to trained personnel in a well-equipped hospital. The safe period has been somewhat increased by the use of the sulfonamides. Some advise the excision of all war wounds under 6 hours. Those over 12 hours are handled differently. In the early cases, excision is the rule, tissues being sacrificed freely during the process. Wounds over 12 hours old are usually infected so that in most wounds between 12 and 18 hours old, operation is done for only a definite purpose and the following rules are advocated: (1) operation limited in scope and gentle; (2) incision may be needed for exploration and drainage; (3) remove foreign bodies, clots, and devitalized tissue without disturbing the wall of the wound (limited debridement); (4) hemostasis; (5) remove damaged muscle up to bleeding, contractile portion; (6) free drainage; (7) irrigate with mild antiseptic such as hydrogen peroxide; (8) no tubes are used for drainage. The wound is packed lightly with vaseline strips or the Carrel-Dakin technic is used; (9) splinting. The above principles are advocated by Bailey.

Tenderness, pain, tension, and increasing edema indicate trouble. Thin, foul, sanguinous discharge and spreading mottled skin bronzing are indicative of gas bacillus infection. The temperature is less reliable than increases in the pulse rate and in the amount of pain.

Since most war wounds are left open, the primary suture of tendons and nerves is not advocated, although this is done if primary closure is attempted and the patient is seen within 6 hours. Some surgeons in the war zone practice primary closure providing complete excision is done early, there is no skin tension, no buried sutures are used, and all dead spaces are obliterated. However, most surgeons are against primary closure in war, one reason being that the subsequent course can seldom be followed by the original operator. Most wounds, then, are left open in war surgery.

Obviously, wounds of the brain, joints, pleura, and abdomen are exceptions. In these wounds at least the serous layer is closed, the more external portions being left open in some instances. Packing of the wounds is advocated by many and infrequent dressings are generally agreed upon.

The closed plaster cast method has many advocates. It gives complete rest, eliminates frequent dressings, gives tissue support, controls edema, and lessens the lymph flow. Infection is spread by the lymphatics hence, the cast keeps the infection localized by decreasing the flow of lymph. This method has greatly reduced

the incidence of gas gangrene. It saves time and materials, the patients are easy to transport, and they are comfortable and contented. Very definite pre-requisites, however, exist, including complete early excision of the wound and an intact blood supply, together with a surgeon who has had ample experience with the method. There is no padding except over bony prominences and the cast is applied directly to the skin with no dressings on the wound. It is changed infrequently at about 3 to 6 week intervals; no windows are cut in the cast; it is not removed simply because of some soreness, some fever, or enlarged glands. It is removed only if apathy, high pulse, severe pain, and edema of the distal part of the extremity ensues. These symptoms may be due purely to inadequate drainage and after drainage is instituted and the wound is re-packed, the cast may be re-applied.

The packing of the wound may consist of plain vaseline, one of the sulfonamides incorporated in vaseline, or any one of the various other non-adherent preparations.

It is the correct fundamental principles that are of the chief importance in the treatment of wounds, the medicaments and substances being of lesser value. It is interesting to note that the three substances which appear to be of the greatest value in the treatment of war wounds are vaseline, plaster, and the sulfonamides — and of these three, two of them are among the simplest and oldest of preparations.

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★ BUY WAR BONDS ★

MANAGEMENT OF BURNS

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The medication and ways of treating burns are numerous and varied, with champions for every treatment. I consider this a healthy atmosphere, as it shows that the last word in the treatment of burns has not been reached, but out of this conflict comes improvement in technique and a reduction in the mortality rate.

It is impossible in the time allotted to go much into detail, but I will attempt to give you what I consider the important factors. I do not come before you with a new treatment, but will give you my experience and that of others in regard to the present care of burns. In the last few years I have tried to keep myself posted upon all new information and ways of treatment, and sift out the things that would help me in the care of my own patients.

For all practical purposes I like to classify burns into three degrees, according to the depth. (Boyers).

First degree, which consists of redness.
Second degree as that forming blisters,—and
Third degree as that which extends below the skin and produces granulation.

Dupuytren gives six degrees in his classification which extends down to the bone, but in the early stage it is difficult to determine the exact depth.

First degree burns can be treated by local applications. Among this type is moderate sunburns, and in sunburns I find ice pack or cold applications to the area a very satisfactory means of removing the heat.

Of course, the thing we are all interested in is extensive second and third degree burns, and in my opinion most of these cases should be cared for in a hospital and a routine should be established so that everyone involved will know what to do. In other words, develop team work and avoid last minute confusion.

I am convinced that there is a psychical factor involved in burns that we often do not recognize, as some cases react systemically far beyond that expected from the burn. This in-

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volves the horrors of the accident, plus sudden exertions performed at that time and as a result may produce sudden collapse.

Statistics show a decrease in mortality rate, especially at the time tannic acid was introduced by Davidson, and others by various treatments show still more reduction in their smaller groups.

If the doctors will only realize the importance of proper early treatment, many lives will be saved. The life or death of a great many cases are decided in the first 24 to 48 hours. So in treating your burn cases bear this in mind.

The treatment of burns can be classified into two parts — the general treatment and the local treatment.

Under the general treatment which is probably the most important we have shock, which is both primary and secondary, but for general purposes they need not be differentiated, as it is difficult to tell where one ends and where the other begins, and the only difference between burn shock and shock from other types of trauma is, in the former the degree of hemoconcentration is much greater.

Various theories have been advanced for burn shock. Among these we find listed toxic, nervous, septic and fluid loss theories. They may all be factors, but working at different times, and in the following order, we have primary shock, secondary shock, acute toxemia and septic toxemia, but they seem to overlap. Harkins of Detroit explains his theory as to what takes place. He claims that in the primary condition the local thermal trauma causes local capillary injury, resulting in regional loss of plasma like fluid (a weeping stage). Later due to tissue metabolities set loose in the damaged areas there is a generalized loss of plasma like fluid from capillies remote from the burn areas. (This fluid loss may equal several quarts). It has been estimated that a burn of one-sixth of the body area can lose 70% of the body fluid in 24 hours.

Then secondary, there is a reduction of blood volume and cardiac output, resulting in hemoconcentration, and it is important to correct this condition before irreparable anoxia tissue damage takes place and before irreversible generalized capillary permeability occurs.

The critical phase takes place after 18 to 24 hours, but the trouble starts from the time of the burns and gradually builds up.

There are three theories that have been advanced as to what takes place.

First, we have the physical theory, supported by Underhill, Blalock and Harkins, as given above, which sounds quite logical.

Second, is the bacterial theory supported by Aldrich, who found beta hemolytic streptococci in the blood and burn area of most cases.

And third, is the clinical theory which was supported by Davidson who held that a specific toxin formed in burn areas and absorbed into the circulating blood, produced toxemia and collapse. For several years I assumed this last theory to be correct. In our tannic acid treatment we were warned and we were very careful not to use moist applications on the burned areas after the tannic acid crust was formed, due to fear that if this tissue was softened this toxic material would be liberated and get into the blood, producing dangerous toxemia.

The supportive measures in burn treatment consist of rest, quiet, elevation of the bed, warmth and sedatives, and morphine, in my opinion, is the best drug to use. (But these things are not getting to the source of the trouble.)

In severe cases oxygen is considered an important factor. The amount of oxygen depends upon the severity of the burn. Some knowledge of the amount of oxygen obtained by various methods is good to know and the following chart is a guide.

Normal breathing or alveolar oxygen is about 15%.
With nasal catheter 30%.
With oxygen tent (usual) 45%.
With oxygen tent (extreme) 60% — and
With B. L B mask about 90%.

Using this table you can estimate the amount of oxygen your patient is getting and the control of anoxia is important.

Adrenal Cortex, which is more or less in the experimental stage, is considered by some to be valuable in preventing fluid loss in severe cases of burns.

I consider the most important elements in the treatment of burn shock is blood plasma accompanied with other fluids.

Due to the loss of large amounts of fluid through the burn area the protein and chloride depletion occurs.

Usually about 1000 c.c. of Isotonic solution of sodium chloride is considered about enough per day, although some give 3 or 4000 c.c. per day, but this is apt to produce a water logged condition and I recommend caution and do not overdo a good thing.

Dextrose should be given in large amounts to protect the liver, but most should be given by mouth if possible.

Plasma, the real important factor, should be given according to the need, but to assist the doctor in estimating the amount needed, various methods have been worked out, some of which are quite complicated and I will only give those I consider practical for ordinary use.

One where laboratory facilities are not available and which is satisfactory and credited, I believe, to Berkow, is as follows: The dose of plasma may be calculated according to the extent of the body surface involved and that is, 50 c. c. of plasma should be given for every per cent of the body's surface affected by a deep (blistering) burn. In other words, an individual with 20% of surface burned should receive about 50 times 20, or 1000 c. c.

Another easy method where laboratory facilities are available and recommended by Harkins, is to administer 100 c. c. of plasma for every point the hematocrit reading exceeds the normal of 45. Example: If the hematocrit reading is 58 — 13x100 c. c. would equal 1300 c. c., which would be the total amount of plasma required.

Some recommend the pricking of the finger and note the rate of bleeding, but this is very inaccurate.

If seen late, restlessness, rapid pulse, thirst are all indication for prompt administration of plasma.

Of course, this plasma should not be given all at once. Berkow recommends one-third the first two hours, one-third the next four hours and one-third the next six hours. While Lee, Elkenton and Wolff recommend small plasma transfusions at 6—15 and 30 hour periods, and a large transfusion of 900 c. c. at the fortieth hour period, when they consider the unbalanced permeability has been adjusted and the body is ready to maintain the fluid. The rule they follow is to give enough plasma to keep the hematocrit value between 50 and 55% until the capillaries have returned to their normal state of permeability, and then enough plasma given to restore the plasmal volume to normal.

The treatment of toxemia seems to be related to a disturbance in hepatic function, which is usually accompanied by jaundice with central necrosis of the liver. Many claim this condition only develops in tannic acid treated cases, although Wilson and Stewart in Edenburg have injected burned tissue in healthy animals and found similar changes in liver at death, but this is not found by others in their experiments, and they claim Wilson's cases all had general anesthesia which may have been a factor. Those who claim this toxemia only occurs in tannic acid treated cases, use this as their objection to this method of treatment.

Next is the treatment of sepsis and this by careful and aseptic local treatment can be prevented in a great many cases, but where it occurs the sulfonamides offer the best means of control.

We now come to the local treatment and here is where we have the most disagreement among doctors as to what is the best method to use, which means to me that we have not reached the last word in regards to this matter. Most all have their good and bad points, and as far as time will allow I will give the high points in the most promising local treatments. There is a list of over 75 different materials recommended, but for my own satisfaction I have divided the types as follows, although there may be some overlapping.

(1) Ointments in general, many kinds.
(2) Liquids in general, etc.
(3) Paraffine and heavy petrolatum.
(4) Tannic acid.
(5) Pressure bandage.
(6) Dye, the important ones being Gentian Violet and tripple dye. (Dymixal).
(7) Sulfadiazine.

Tannic acid which is now being attacked by many, is probably the most used at this time. Since 1927 until the last two or three years we used it exclusively for bad burns and had been very well pleased with the results. Now

with our present technique we are getting better results. I want to emphasize the importance of proper care and asepsis in handling burn cases. In big explosions where everyone is excited and 40 or 50 cases come in all at the same time, you have a job on your hands controlling the situation and determining the cases that need hospital care. In our refineries the bad cases are immediately stripped of their clothing, placed in sterile sheet and with plenty of blankets to avoid chilling they are rushed to a near by hospital where treatment is started immediately. The hospital staff must be acquainted with your method of treatment, as everyone is needed when several cases are involved. Each case needs a nurse who can start the tannic acid spray as soon as the dead skin and skin over the blistered areas has been removed. Where oil and grease is present we use a product developed in our own company known as Hexane, which has a boiling point between 97-150°, for removal of same. We have not seen necessary on cases we get right away to scrub the burns with soap and water, but have treated them as uncontaminated wounds and start the spraying of 5% tannic acid directly on the burned area. Then after 15 or 20 minutes of tannic acid spraying, a swab saturated with a 10% silver nitrate solution is systematically brushed across the burned area, as you would paint an object, and immediately a dark tanned coating develops. As soon as this is finished spray treatment is over and from then on only general treatment is necessary through the trying next few days.

All attendants wear masks and the surgeon and his assistants use sterile instruments, gloves and gowns and we avoid external contamination as far as possible.

We have not been troubled with infections among our cases and have had only one case to die with jaundice and central necrosis of the liver. In this case on autopsy there was no infection present in the tanned area and healing was taking place when the patient died on the seventh day. The case was a steam burn and the patient was in a very excitable state from the very first. The burned area was not unduly large, but in spite of all treatment this case from the third day on got worse and died.

Recently we have added the sulfonamides systemically as a prophylaxis for infection. The silver nitrate produces a thinner and more flexible coating than the use of tannic acid alone. By this method the local treatment is over in minutes and the loss of serum through oozing has been stopped. The patient is kept under a canopy which is heated by light bulbs (blue best) and at a temperature not to exceed 90°. Drafts should be avoided, as burn cases seem to be sensitive to air change and chill quite easily.

We do not use this tannic acid on the face or where the hands are completely burned, due to the fact that same does not permit swelling and restriction of the circulation may occur.

I have a feeling doctors who get street and home burned cases and are delayed in getting the patients under treatment, must give more consideration from the infected angle, as contamination is more apt to occur, and the thorough cleansing with soap and water as advocated by Allen and Koch would be more advisable. In our cases we give morphine immediately and carry the general treatment along with the local care as same is indicated.

Another method we are now interested in and trying is the sulfadiazine treatment developed by Pickrell at Johns Hopkins and a brief summary of this method is as follows:

The solution consists of 3.5% sulfadiazine in an 8% acqueous solution of triethanolamine. The solution is sprayed on with a hand atomizer immediately after removing blebs or loose tissue which might be present.

The solution is sprayed on the burned area every hour the first day, every two hours the second day, and every three hours the third day and every four hours the fourth day. A thin, transparent eschar will have formed by this time and further spraying is not essential.

The solution seems to be somewhat anesthetic, as patients appear more comfortable after the first spray.

The usual measures of combatting shock and dehydration must be followed.

After about ten days the edges of the eschar begin to loosen and to separate from the intact epithelium beneath it. At this time compresses of the solution can be applied; sterile mineral oil sprays followed by normal

saline compresses may allow the eschar to be removed in large sheets in some instances.

In third degree burns the eschar is allowed to remain for at least two weeks.

The sulfadiazine solution has a pH of about 9. They claim it does not injure skin, mucous membranes or granulating surfaces, and can be used in and around the eyes safely.

Blood levels of the sulfadiazine should be determined daily. The maximum level is reached about the second day, but by the fifth day levels decrease to 1-2 mgms.%.

This method of local treatment, of course, involves more attention during the first few days compared to that of tannic acid.

Another treatment worth reviewing, which is an excellent method if the proper hospital facilities are obtainable, is the pressure bandage method advocated by Allen and Koch. I feel this method requires much time and preparedness, and it would be difficult to handle a large group of burns at one time as a specially prepared room is necessary, but after the case is once finished it requires no further local treatment for several days. They go into detail in regards to asepsis and technique in making the wound surgically clean, which should receive no criticism. They scrub and clean the wound with white soap and water for several minutes, using a large pad of cotton as a wash cloth and then irrigate liberally with normal salt solution until they consider the wound surgically clean, after which they apply layers of vaseline gauze and over which is placed flat dry gauze, then fluff gauze, on top of which is placed sterile sponges or machinist wastes, and a pressure bandage is applied. Splints and cast are used where necessary and the patient is put to bed and the bandages are not changed for 12 to 14 days, at which time the second degree burns are usually healed. I have seen these cases at Cook County and the patients appear quite comfortable. By this method they have decreased their mortality rate from 1939 of 5.8% to 1941 of 2.7%, whereas their mortality rate in 1939 with tannic acid was 7.3.

Another method which is not new but is still used by Carnegie Steel with great favor is paraffine sprayed on the wounds. I used this treatment back in 1921-1927 and at that time we considered it the most satisfactory way of treating burns until the tannic acid method came out. An objection I have to it is the time consuming application of the paraffine and the daily changing of dressings. The Steel company has developed a very good technique with this treatment and I can see the advantage of its use to them. Their burns are often very deep due to hot molten metal which may penetrate down to and into the bone, producing much sloughing.

Another method developed by Aldrich in the east, which has met favor in his clinic, is the tripple dye called by the McNeil Laboratories as Dymixal. It is sprayed on and is supposed to combat both the gram negative and gram positive organisms. I have not seen any cases treated this way, although I am acquainted with Gentian Violet treatment of spraying burns, and this method is the same procedure.

The last one I will mention is the Foille treatment. This is apparently popular in the south, especially in Texas. Foille is a stabilized, viscid water-in-oil emulsion in a base of corn oil. It contains:

Benzocaine, an analgesic
Oxyquinoline, a mild antiseptic
Calcium soaps, which maintain the emulsion and produce a soft, protective precipitate with body exudates.

This solution is first applied by spray or soft camels hair brush, followed by a preliminary dressing of two or three thicknesses of sterile Foille saturated gauze held in place by clean bandage and kept moist with Foille under a heat cradle for 48-72 hours. Then the crust, etc. is soaked off in a tub of warm tap water. Thereafter the lesions are kept covered with Foille but without gauze bandaging and warm baths are given every day or two. Then in the epithealization stage some use pectin jelly or cod liver oil. This again is a method which requires considerable time for local treatment.

In all deep burn cases after healing has begun and the deep burns have sloughed or the coated areas are removed, we may have areas that are denude of any skin, and the only way of getting skin across these areas is for the skin to grow in from the edges or to skin graft. I am afraid it is the tendency of a great many doctors to put off skin grafting until the last resort, but I

want to stress the importance of skin grafting early to close the open wound as soon as possible to stop loss of fluid and to prevent thick scar tissue from developing. It also prevents contractures which are disturbing factors in burns. Dr. Padget of Kansas City has developed a Dermatone which is quite satisfactory for obtaining large flaps of skin when needed and split skin grafts are used for most early grafting. This instrument will cut any thickness desired. Pinch or thiersch grafts may be advisable in infected areas, or when flaps cannot be used.

Literature at times speak of airman's burns. These are burns that develop when the aviator throws up his hands to protect his face in case of an explosion and gets his hands and face both severely burned. I understand the English treat these cases with saline baths twice daily and saline pack the rest of the time.

In phosphorus burns the phosphorus is picked out under water and then washed with mild sodium bicarbonate solution. After this a 1 or 2% copper sulphate and boric acid solution is used, followed by saline dressings and no oil or grease applications are advised.

In regards to face and eye burns, Chruthird and Mellons treat these areas with a sulphur solution known as hydrosulphosol, both in solution and in ointment form.

For the skin they spray one part hydrosulphosol with one part distilled water every 15 minutes for the first six hours and less treatment thereafter until healed.

In eyes they use 4 c.c. to 1 ounce of distilled water as drops followed by wet compresses over them. (H. D. Bliss, 1217 Broadway, New York. Price $16.00 per dozen of 1 ounce.)

They claim by this treatment: Relief of pain, flexible eschar which separates on healing, minimum scarring and contracture, prevents infection, lacks toxicity, ease of application and rapid healing.

I hope you realize the magnitude of this subject and I hope I have not been too brief in some ways, or too long in others. This is an important subject and the present war brings out its seriousness. I understand 60% of the injured cases at Pearl Harbor were burns. Therefore doctors who enter military service can expect a great deal of experience with burns and as a result of this we can expect further improvement in the treatment.

In closing I want to emphasize the importance in the general treatment of burns. Especially the value of blood plasma and the chloride and glucose balance. Although local treatment is valuable I, at this time, cannot state which method you should use. They all have their merits but until a better agreement on this matter can be reached I would advise you to use the method that you can most successfully handle, but never be completely satisfied with your treatment as long as fatalities occur.

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MINIMUM FRACTURE REQUIREMENTS

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It is often said that the minimum requirements to be a fracture specialist is to have a strong back and a weak mind. While this is not entirely true, I believe that the strong back is very essential, because of the necessity for traction in all fractures. In a more serious vein, one must be equipped to apply plaster, to apply splints, and have the necessary paraphernalia including the Thomas Splint, Balkan Frames, weights, and so forth. There is no question that the ideal and individual splint is the plaster of paris cast. All other splints are not individual as they are supposed to be universal splints, namely to fit all patients under all circumstances and conditions. This, as we all know, is a fallacy, and the only splint that really immobilizes adequately is the plaster of paris splint made for the individual. In the state of Illinois x-ray examinations are considered common practice. Therefore, it is essential that an x-ray be taken of any member where there is swelling, discolora-

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tion, with or without deformity, because the x-ray can be of inestimable value both for negative and positive determinations.

There are a few basic principals which we must all adhere to in the minimum requirements for fracture treatments. First one must always approximate the distal to the proximal fragment. The distal is the moveable part and can be placed opposite the proximal in most instances. Second, one must always consider the normal weight bearing line, that is, from the anterior superior spine of the ilium through the middle of the patella and between the first and second toes. It is essential to maintain this weight bearing line in order to have correct weight bearing and function. Third, never permit posterior or medial displacement, both of these deformities are crippling and disabling. Fourth, in fractures of the humerus, the carrying angle is essential, it should always be maintained. Fifth, never try to hold a fracture in the correct position by pressure, because of the danger of soft tissue necrosis, and of delayed or non-union of the underlying bone, as the pressure applied will cause ischemia of the soft tissues, thus increasing the chance of gangrene of the soft parts or delayed union of the fracture. Sixth, as a general rule one should keep in mind that traction is far more important than manipulation, and that many of our complications encountered in fractures are as a result of manipulation, and not of the accident itself. Seventh, we should employ moleskin adhesive traction, plaster, or skeletal traction.

Now, there are a few methods of treatment that apply to all fractures of the upper extremities with a few exceptions. As a general rule, we may say that all fractures of the humerus with the exception of, A — impacted fractures of the neck of the humerus; B — fractures without displacement of the humerus; C — or supracondyllar fractures, should all be placed in extension with the arm in supination. The arm is placed in supination for three reasons; first, this is the anatomical position; second, maintains the normal carrying angle; third, the most common nerve injured with a fractured humerus is the musculospiral nerve. Fractures of the supracondyllar area including the forearm, wrist, and hand are immobilized in a plaster of paris cast. The forearm can be conveniently divided into three parts, for fractures of the upper third, the forearm should be placed in supination and right angle flexion with the cast extending from the metacarpo-phalangeal junction to the mid arm. For fractures in the middle third, they can best be treated by mid pronation and supination and right angle flexion at the elbow. In fractures of the lower third, pronation of the forearm. If traction is necessary on the forearm, adhesive traction is not efficient as the skin area is not sufficient. Therefore, skeletal traction is absolutely indicated. Adhesive traction means moleskin adhesive traction. The ordinary adhesive tape will slip and tear, also excoriate the skin, and it is not advisable for use in traction, while the heavy moleskin will hold and will not tear or pull off. When moleskin is applied, the member to which it is going to be applied should be washed with soap, water, alcohol and ether, the member should not be shaved because the hair leaves a breathing space between the moleskin and the skin, and excoriations of the skin are infrequent.

Fractures involving the Lower Extremities—All fractures of the femur extending from the neck to the Supracondyllar area should be placed in traction with moleskin adhesive tape, and as a caution, when traction is applied the moleskin should never be crissed crossed or circular, it should be placed laterally on the leg, and secured by means of an elastic bandage. Skin traction on the fractured femur will reduce the shock, reduce the muscle spasm, and reduce the fracture if sufficient weight is applied. It is important to place the maximum amount of weight on the fractured femur early then the moleskin has its maximum adhesive qualities, and the skin is in good condition. In other words, instead of placing five or ten pounds on the fractured femur and gradually increasing it until finally you have forty to fifty pounds, at which time the skin may become excoriated, the moleskin may slip, and the fracture will not be pulled down, it is much better to place the maximum amount of weight on first and then gradually reduce it.

Fractures of the Leg—All fractures of the lower leg including the tibia, ankle, and foot are reduced and immobilized in plaster of paris cast, being careful to maintain the normal weight bearing line. It is advisable where traction or

manipulation is necessary to reduce the fracture that a posterior mold cast be applied. This plaster must be very wet and soft (sloppy soaking wet) in order to conform to all of the irregularities of the leg. The cast should be bandaged firmly and just as soon as the plaster is hard, the tight bandage removed and the anterior portion of the leg washed, powdered, and a loose bandage applied. Now, if traction is necessary on the lower leg, again the skin area for the traction is deficient, so that skeletal traction is indicated. The indications for skeletal traction are five, and every time we insert skeletal traction, we comply with one of the five indications. First, compound fractures; Second, comminuted fractures; Third, skin excoriations, blebs, bruises, lacerations and so forth; Fourth, in circulatory embarrassment, gun shot wounds, ruptured blood vessels, and so forth, where superficial compression is to be avoided. Fifth, in place of surgery, that is, skull fracture, chest wounds, abdominal lesions, etc., in other words, anything that would be contra-indication to surgery.

We all recognize the fact that skeletal traction is by far the most efficient form of traction, that we can employ, but there are some special rules for consideration in employing skeletal traction. Namely, one — skeletal traction should not be inserted within 6″ of a simple fracture or we will have a compound fracture. This is true except where a joint intervenes and voids the rule. Second, distraction frequently causes delayed or non-union by pulling the bone surfaces apart. Third, pes cavus, or contraction of the plantar fascia should be avoided. Fourth, no dressings are applied around the pins or wires or hooks, etc., as we believe that dressings encourage infections and drainage. The various sites for the insertion of skeletal traction in the leg are: The site of election is the os calcis, the pin is inserted from the medial side to the lateral side, inserting the pin away from the posterior tibial vessels. It is better to pound or drive the pin into position than to drill it with either a hand or a bit drill as both are likely to cause larger holes than the diameter of the pin resulting in a slipping of the os calcis on the pin. Kirschner wires or small Steinman pins are inserted by drilling into the tibial tubercle. We never insert skeletal traction in the supracondyllar area because of the proximity of the knee joint. A large screw is used for skeletal traction through the greater trochanter into the neck and head of the femur for acetabular fractures, where the head is pushed through resulting in central a dislocation or perforating fracture.

Site for Skeletal traction of the Upper Extremities—The Kirschner wire is placed through the metacarpal heads, the site of insertion about one inch proximal to the heads of the metacarpals. A Kirschner wire through the ulna into the radius for traction on the forearm and arm. Here it is important to insert the wire from the ulna to the radius so as not to miss the ulna. A very important point for consideration is the fact that the fracture should be placed in the correct position before the Kirschner wire is inserted, and that the Kirschner wire acts solely as a means of immobilization and not a reducing agent, because once the wire is inserted through the lower end of the ulna and radius, it immediately locks these two bones and prevents rotation. So that, it is important to reduce the fracture first, and then to immobilize it by means of the Kirschner wire. For skeletal traction in the elbow, our choice is a hook that can be bought at any hardware store very reasonably. This hook is inserted into the ulna about 1½″ distally from the olecranon, after a drill hole has been made, the diameter of which was slightly smaller than the diameter of the threads of the screw, traction is then applied in this area with moleskin on the forearm for flexion or extension.

Pelvic Fractures—This one fracture has been grossly mishandled and over-treated. About 65% of fractures of the pelvis can be treated by rest in bed, with a board under the pelvis. All that is necessary is to have a firm support posteriorly. If compression is required, a sling can be employed. This sling should have a seat that can be dropped rather than to pull the sling up or push the sling down for toilet purposes. Lastly, for malgaigne fractures or upward displacement of the entire side of the pelvis, straight leg adhesive traction should be employed.

For many years the Taylor spine brace has been used for compression fractures of the vertebrae. When this Taylor brace is applied, lateral motion is possible, forward bending is also

possible by relaxation of the slings under the arm. This type of a splint or support does not fulfill the basic requirements for immobilization of the back. They are immobilization of the sternal notch and symphysis pubes, and the Taylor spine brace does not fulfill these requirements, it does not accurately and adequately immobilize the back. Therefore, I suggest a brace that will immobilize from the sternal notch to the symphysis pubes to prevent forward flexion, and a chair back brace to prevent lateral rotation or motion, thus eliminating the deformity that can and frequently occurs after an excellent reduction. The above summary of the treatment of fractures just touches the surface or high spots in the treatment of fractures. It is not meant to be complete, but simply illustrates some of the minimum requirements that we should adhere to for the correct treatment of fractures.

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PREVENTIVE THERAPY IN RECURRENT URINARY LITHIASIS

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The rate of recurrence of renal and ureteral calculi has been found to be from ten to twenty per cent, or more, figures which are sufficiently high to lend interest to preventive therapy against recurrence.

At the outset it must be stated that the fundamental cause of urinary calculus formation is unknown and that probably, mainly because of this, the complete prevention of urinary calculi is impossible. The cause of some urinary calculi, such as bladder calculi associated with prostatic obstruction or calculi occurring in bladder diverticula, is quite obvious. However, the commonly encountered calcareous renal or ureteral calculus, when seen in its earliest stages is usually not associated with any clinically demonstrable abnormality of the urinary tract. But many conditions favoring urinary stone formation are known and by the elimination of these in patients who have had urinary calculi the rate of recurrence of these stones can be materially reduced.

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Probably the first opportunity in which a prophylactic measure against recurrence can be practiced is during removal of the primary stone. It consists in making scrupulously certain that no fragment is left remaining in the urinary tract. It is exceedingly easy for instance in the case of a branched renal calculus to leave a fragment in a calix. Such a fragment, if left to remain, furnishes a ready nucleus for the development of another calculus. Making a roentgenologic examination of the kidney at the time of operation is a valuable aid in helping rid the kidney completely of a stone. With the kidney elevated out of the wound, it is usually not difficult to make such an examination without unduly prolonging the operation. Thus it is possible to make immediate further attempts at removal of any remaining fragments which might be disclosed. In the case of a kidney or ureteral stone, where the removed stone does not correspond in shape and size to the shadow of the stone on the preoperative roentgenogram, or where fragmentation of the stone has occurred in its removal, a thorough postoperative roentgenologic check should be made. Only by doing this is it possible to be certain that a future calculus, should it appear, is a true recurrence and not the result of a fragment of a former calculus upon which a stone has grown.

Two conditions affecting the urinary tract, which have been accorded much importance as causative factors in urinary lithiasis, are stasis and infection. In some quarters they are considered the all-important causes of all urinary stone formation. Braasch[1] from a study of 576 cases of chronic pyelonephritis, found that calculi occurred in twenty-eight cases, an incidence of five per cent. In those cases of urinary infection in which stones develop, one or more factors favoring stone formation must exist, which are absent in those cases in which stones do not develop. The effect of infection is to augment the action of these other factors. Patients who have developed stones have revealed the existence in them of these factors, and, as is common knowledge, when a urinary infection continues after the removal of a stone, recurrence of a stone is very likely. In considering the relationship of infection to calculus formation it is, therefore, important to distinguish between primary and recurrent calculi.

As a cause of primary stone, infection is a factor of some importance, whereas as a cause of recurrent stone it is a factor of great importance.

As evidence of a cure of the infection it is not sufficient to eliminate any existing pyuria. The practice of culturing the urine, which is being employed clinically with increasing frequency, has revealed the frequent presence of bacteria in the urinary tract even though no pyuria exists. As a test of cure of an infection after removal of a urinary calculus it is, therefore, necessary to obtain bacteriologic-negative cultures.

Although it is imperative to eradicate, if possible, every infection regardless of the nature of the offending organism, it is especially important to do so if the organism produces ammonia and thereby makes the urine alkaline. Among the organisms which have this property, B. proteus is probably the most dreaded invader following operative procedures on the urinary tract. It produces a strongly alkaline urine, has a very strong tendency to cause a recurrence of a stone, and which is probably its worst property, it is usually difficult if not at times impossible to eradicate even with the newer urinary antiseptics.

The importance of focal infection as a causative factor in the formation of urinary calculi is difficult to evaluate. The striking experimental results of Rosenow and Meisser[2] demand that it be considered seriously as such. Their method has been one of the few in which urinary calculi have been produced experimentally without at the same time causing severe abnormal physiologic states in the animal. By devitalizing teeth in dogs and implanting in the pulp canals organisms obtained from the urine and from foci of infection of patients who harbored renal calculi, these investigators were able to produce renal calculi in a high percentage of their dogs. Clean-cut clinical evidence of the relationship of focal infection to urinary calculuc formation is difficult to obtain, but because of the definite experimental evidence it is probably advisable to eliminate all readily removable foci.

The relationship of stasis to stone formation is similar to the relationship of infection to stone formation in that a distinction must be made between primary and recurrent calculi. Again, as a cause of primary stone, stasis is of some importance; but as a cause of recurrent stone, it is a factor of great importance. The effect of stasis as a cause of recurrent stone is usually a double one. Besides its direct action in stone formation, it predisposes to infection or insures the perpetuation of an existing infection and thus adds the predisposing action of infection. In a urinary tract in which no stone has formed, the existence of stasis may itself not be an indication for an extensive surgical procedure aimed at eliminating the stasis. However, if a stone has once formed, strenuous efforts to eliminate the stasis as well as the infection are in order.

Albright[3] has rather convincingly championed the thesis that any alteration in urine which increases the tendency of a substance to be precipitated from the urine predisposes to stone formation. The stone which results is composed of the substance whose precipitation has been favored. Thus in cysteinuria, which is a hereditary disorder of cystein metabolism in which cystein is excreted in the urine, cystein calculi occur; in gout, in which presumably the concentration of uric acid in the urine is at times greatly increased,[4] uric acid calculi frequently occur; in hyperparathyroidism, where increased amounts of calcium and phosphorus are excreted in the urine, calcium phosphate calculi occur. The tendency of precipitation can be influenced in several ways: by a decrease in the volume of the urine leading to a general increase in concentration of all the substances dissolved in it; by a change in reaction of the urine from acid to alkaline, or vice versa, rendering some substances more insoluble; or by an increased excretion of a substance by the kidney. The increased excretion may be the result of a metabolic disorder, of which hyperparathyroidism and gout are typical examples, or the result of an excessive ingestion of the substance in the diet, as may occur in oxaluria.

Increasing the volume of urine is one of the easiest and most effective methods of decreasing the tendency of precipitation of many of the solutes. The importance of drinking large quantities of water as a preventive measure against stone formation should be impressed on all patients who have harbored urinary calculi.

The reaction of the urine influences greatly the solubility of various substances in it, and maintaining a proper reaction of the urine is an important measure in the prophylaxis against the recurrence of calculi. The type of reaction, whether acid or alkaline, which is to be maintained is determined by the kind of stone which has developed in the first instance. The composition of all urinary calculi, whether passed spontaneously or removed surgically, should be determined. Recurrent stones usually are of the same composition as the original stone. Since the majority of stones which are encountered consist of calcium and magnesium salts, it is usually necessary to maintain an acid reaction of the urine, which increases the solubility of these salts. Normally most of the metabolites excreted by the kidney are either neutral or acid; as a result the urine is usually acid in reaction, which is considered its normal reaction. The present fad of "alkalizing" for all ailments of mankind by taking alkaline drugs or by consuming large quantities of citrus fruits, which leave an alkaline ash to pass through the kidneys, must be considered as a definite factor favoring the formation of urinary calculi and as a distinct danger for patients who have harbored such calculi. When these substances are taken during an illness associated with pyrexia, at which time the urine is likely to be scant, the tendency to precipitation of calcium and magnesium is doubly increased.

The Sippy treatment of peptic ulcer, in which the systemic alkalizing salts of calcium, magnesium, and sodium together with much milk are employed, leaves an alkaline ash to pass through the kidneys practically continuously, and is right for the formation of urinary stone. It supplies in increased concentration the salts of which the stone is composed and, which is probably more important, aids their precipitation by rendering the urine alkaline for prolonged periods of time. Alkaline tablets, which at present have a large sale at cigar stands and soda fountains, must be placed in the same category with the Sippy powders.

In order to insure a good degree of urinary acidity at all times in patients who have harbored urinary calculi the continual ingestion of some urinary acidifying agent has been suggested. This is impractical and undesirable. It is impossible to make patients who feel well, as do most patients who have had urinary calculi removed, take medicaments several times daily for long periods of time. The administration of such salts as ammonium chloride, calcium chloride, or sodium acid phosphate, which are most commonly used as urinary acidifying agents, probably is too unphysiologic to be employed continuously. Adjustment of the diet so that an acid residue is left to pass through the kidney is probably a preferable method of maintaining an acid urine. If an acidifying agent is to be given, a salt like ammonium chloride is more desirable than sodium acid phosphate because it does not increase the phosphate radical in the urine which goes into the composition of many stones. However, ammonium chloride also possesses the disadvantage of increasing to a significant degree the calcium and the phosphate excretion in the urine, thus increasing the concentration in the urine of the substances of which many urinary stones are composed. Furthermore, it has the detrimental effect of causing a loss of calcium from the body.

A considerable amount of evidence has been accumulated indicating that vitamin A deficiency is a factor in the development of urinary calculi. Numerous investigators have successfully produced calculi experimentally by feeding diets deficient in vitamin A. The application of these results to humans, however, has been beset with difficulties; in animals a severe degree of avitaminosis and pronounced unphysiologic states are necessary before calculi appear, conditions which usually are not present in humans.

Further evidence for the relationship of vitamin A to urinary stone formation has been found in the correlation of the amount of the vitamin in the diet in certain regions with the incidence of urinary stone in those regions. In certain parts of the world, such as India, urinary stones and vitamin A deficiency are very common. On the other hand, in the South African Negro,[5] who subsists on a rich vitamin A diet, urinary calculi are almost non-existent. Also attributed to the increase of vitamin A in the diet is the disappearance of urinary calculi in the children of today; a century ago fifty per cent of all urinary calculi occurred in children and young adults.

A third type of evidence for the relationship of vitamin A to urinary stone formation has been found in the photoadaptation test as a measure of vitamin A deficiency. The rate of regeneration of the visual purple in the rods of the retina is dependent on the presence of vitamin A, and the rate of dark adaptation has been used as a measure of vitamin A deficiency, especially for deficiencies of sub-clinical degrees. As measured by this test, minor degrees of vitamin A deficiency are much more prevalent than was formerly supposed and application of this test to patients with urinary calculi has revealed vitamin A deficiency in as high as ninety-six per cent of cases.

In employing vitamin A together with an acid ash diet, Higgins[6] has been able to reduce the incidence of recurrence from sixteen to five per cent, and has by the same method been successful in causing the disappearance of formed calculi. Oppenheimer and Pollock,[7] in attempting to repeat Higgins' results, found that in none of the twenty-seven patients with urinary calculi studied by them did even a partial resolution of a stone occur; that in five patients an increase in size of the stone occurred; and that in one patient a new stone formed. Ezickson,[8] using the photoadaptation test as a measure of vitamin A deficiency, made the interesting observation, as had been previously reported, that whereas a deficiency of vitamin A is present in many of the patients with urinary calculi no improvement in the adaptation to light occurs in these patients following the administration of vitamin A. He concluded that patients with urinary calculi do not absorb sufficient vitamin A.

From present evidence it would appear that vitamin A deficiency predisposes to urinary calculus formation but that the administration of this vitamin in the form of oily concentrates is of questionable value as a preventive measure. Since its administration is, however, attended with little effort and expense, it is probably desirable to employ it until the problem in regard to its utilization in the patient with urinary calculi is completely solved.

Prolonged recumbency as occurs in certain paralytic conditions and in the treatment of certain fractures, frequently is associated with renal calculi. Several factors of those already described as favoring urinary stone formation are operative in the bedridden patient. A reduced fluid intake with a resultant small urinary output is likely to occur. If the patient is hospitalized he may receive much citrus fruit and have an alkaline urine. Probably the two most potent factors, however, are an increased urinary excretion of calcium and a stasis of urine in the kidney. The increased calcium excretion is secondary to a demineralization of bone which occurs in these patients. Stasis occurs in the kidney because in the recumbent position some of the calices are the most dependent portion of the urinary tract.

With the elucidation of the disease hyperparathyroidism, another factor at times causing urinary calculi, has been uncovered. This condition, usually the result of an adenoma of a parathyroid gland is associated with an increased excretion of calcium and phosphorus in the urine. Urinary calculi have been estimated as occurring in as high as sixty per cent of the cases of this disease. Considerable difference of opinion, however, exists as to the frequency of this disease and its importance as a factor in all urinary calculus formation. On available evidence today it seems to be a rare disease and a rare cause of all urinary calculi. Since, however, a large percentage of the cases develop urinary calculi, reliable blood calcium determinations are indicated in all patients who have developed calcium calculi. When reliable blood calcium tests are not obtainable the Sulkowitch test, which is a simple test performed on the urine, may be used for detecting excessive calcium excretion.

Another metabolic disorder to be kept in mind, especially when dealing with non-shadow casting calculi, is gout. In the two diseases, hyperparathyroidism and gout, urinary calculi may represent a manifestation of a fundamental metabolic disorder.

In this discussion a conscious effort has been made to consider only those aspects of urinary stone formation which have a practical significance and to avoid those which, although interesting and intriguing and accorded much attention, as for instance the protective colloids or the subepithelial plaque of Randall, offer nothing that can be used in therapy today.

SUMMARY

The first step in the prevention of recurrence of urinary calculi is the complete removal of the primary stone; stasis and infection, although important causes of primary stone formation, assume greater importance as factors in recurrence; experimental evidence of the relationship of focal infection to urinary calculus formation is so definite that all readily accessible chronic foci of infection should be removed; measures favoring solution of the salts of which urinary calculi are composed, such as diluting the urine and maintaining a proper reaction of the urine, are valuable prophylactic measures; vitamin A deficiency is a factor in urinary stone formation but its value as a prophylactic measure when administered to patients who have harbored urinary calculi is, however, questionable; hyperparathyroidism and gout are metabolic disorders to be kept in mind as occasional causes of urinary calculi; prolonged recumbency increases the susceptibility to urinary stone, and in patients who remain in this condition all possible prophylactic measures against stone formation should be instituted.

DISCUSSION

Dr. W. W. Holland, Macomb: There are a couple of phases of Dr. Droegemueller's paper that I would like to discuss. The first is to take an x-ray immediately after or during surgical procedures to rule out any small fragments of stone that might be left and to reveal soft shadows that did not show up on the original plate. It is important to flush the kidney pelvis through the incision in the pelvis after a nephrostomy tube has been inserted in order to wash out any small fragments. Higgins of Cleveland has devised a special irrigator for this purpose. Before the pelvis is closed it is important to pass a small ureteral catheter to wash out any small fragments that may have dropped into the ureter during manipulation. Various writers in reporting on this subject have mentioned the occurrence of stone in this way. In operations on the kidney the percentage of recurrence was high. This brings up the point of relation between fragments that are left and blood clot. Higgins has also advised that in suturing the pelvis or ureter we use very small catgut and put it in the serosa only, so there will not be a small loop of catgut left to form the nucleus of a stone. Dr. Cabot stresses a very important maneuver in this sort of surgery; when the stone is in the lower ureter, he introduces a nephrostomy tube after removal of the stone and then resuturing the kidney, using the posterior capsule. Postoperatively we should always do an intravenous pyelogram to be sure we have removed all the fragments, so that the patient will not return in a few months with what we think is a new stone but which is really a fragment that was left. The use of one of the sulfonamide groups of drugs is very important in treating infections of the urinary tract. Dr. Helmholz has worked these out with every known type of bacteria. These should also be used in the dressings of any infection. We have used large doses of vitamin A postoperatively.

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THE RATIONALE IN THE TREATMENT OF INFANTS AND CHILDREN

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The modern treatment of infants and children is based on the comparative study of groups of children in large infants' and children's hospitals. This treatment stresses both the fact that children should be recognized as individuals, and the use of good common sense.

I think that the prevention of disease in infants should begin with the prenatal care of the mother. The early reporting to the obstetrician, the monthly and weekly check-ups, and the correction of conditions that impair the health of the mother should go far in the prevention of various things that happen to new-born infants. The various drugs given to mothers to prevent pain in labor should be administered with caution and a thorough understanding of the progress of labor. After the baby is born, the mother should be placed in a comfortable room as soon as possible, and allowed to rest. The baby should be kept in as even a temperature as possible, preferably between 70 and 75, and allowed to nurse the mother in about 12 hours after birth.

At this point it is well to explain or rationalize the feeding of infants. Each infant is an

individual, and cannot be fed by any absolute scale or formula. When you consider that the mechanism of digestion is approximately that of an adult, and that you have to provide food for an activity that is many times greater than that of an adult, and growth which is enormous, you can see that the digestive capacity is taxed to the utmost. It was shown many years ago by group observation and experiment that infants do not empty their stomachs for at least three hours, and bottle-fed infants average one-half hour longer than breast-fed infants. Therefore, the four hour schedule has been accepted as the logical interval between feedings of healthy infants. Contrary to the views of some of our leading psychiatrists, the four hour interval and the attempt to keep an infant on schedule is important. Infants form habits quickly and it has been my contention that, since this is so, it is up to us to teach them good instead of bad habits.

Several years ago men became interested in the initial loss in new-born infants, and tried to correct it by giving glucose solutions, beta lactose solutions, and complimentary feedings immediately after birth. Grulee and his co-workers think that this wave of interference which went over the country at that time probably influenced the reduction of breast-fed babies. At the present time they advocate giving nothing but water until it is proven that the nurse is inadequate, even then allowing the baby to nurse a reasonable length of time on a satisfactory schedule with a complimentary feeding immediately after nursing.

The average number of calories and the average amount of fluid per pound of body weight is fairly well established for the normal infants. However, keeping in mind that infants are individuals, it is impossible to feed them by any set scale. If this were not true there would never be trouble in feeding. We will assume that every effort has been made to keep the baby on the breast and, in spite of our efforts, we have a bottle-fed baby. What kind of formula are we going to give this baby, and how are we going to know that this formula is adequate? We know that the average ounce of cow's milk contains 20 calories, evaporated milk 40 calories, sugar 120 calories, and the average ounce of dried milk, with the exception of Dryco, contains 120 calories, for feeding purposes. The normal infant needs an ounce and a half to two ounces of fluid per pound of body weight, and from 40 to 50 calories per pound of body weight. Newborn infants need more fluids than older children. Therefore, it is comparatively easy to make out a formula for an individual child. If the baby gains, is happy and contented, and the stools are normal you have hit on the proper formula. But you can only consider the first formula as an "X", and you go on from there to make necessary changes for the individual child. The weighing of the child at weekly intervals, the examination of stools, and the general well-being of the child are your guides in the correctness of your formula.

There are several kinds of feeding — cow's milk, evaporated milk, S. M. A., similac, and many other baby foods which are all good. In my experience I have seldom had to use anything but cow's milk and evaporated milk. The only advantage I can see in foods such as S. M. A. and similac is that they are easily prepared and contain necessary vitamins and sugars. The average feeding should contain from 3 to 4% sugar; that is, 4 tablespoonfuls of Karo syrup to a quart of mixture makes approximately 4%, or plain granulated sugar, or 6 tablespoonfuls of dextramaltose. Honey and cartose are sometimes used. Tice of Philadelphia states that more babies get along well on granulated sugar than on any other preparation.

Here it is well to emphasize again the digestive capacity of the infant, and to realize that the least disturbance might cause a digestive upset — colic, diarrhea, etc. — without any infection or pathology. Various physics and cathartics are condemned for several reasons: first, they cloud the diagnosis; second, they are habit forming; third, they actually create digestive disturbance. It is reasonable to believe that, if the technique of preparing feedings has been the same and there has been no change in the quantity, quality or amount of sugar, you must look further than the formula for the cause of vomiting and diarrhea.

It is common knowledge that there is frequently a digestive disturbance — colic, vomiting, diarrhea, and sometimes temperature — the day after the mother gets home from the hospital, or a few days after the mother resumes

her household duties. We know that babies often show digestive disturbance the day after the maid's or the nurse's afternoon off. This, I am sure, is due to a nervousness on the part of the mother, which is easily transmitted to the baby.

At the present time it is customary to begin light cereal feeding with the formula at about four months. This gradually is increased, and the various vegetables, cooked fruits, and soups are added as the infant's digestive capacity increases. It is believed that they get their natural vitamins by this method, and have a better resistance to various infections.

There has been an everlasting controversy between the doctor, practical nurse, grandmother, and aunt as to the digestive disturbance caused by the cutting of teeth and worms. We are apt to lean over backwards in our anxiety to teach the mother that teething is a physiological process, and that the presence of worms can be verified by examination of the stools. However, any doctor who has raised a family of his own, or has been in close contact with infants cutting teeth must have observed the coincidence of digestive disturbance with the appearance of one or more teeth. If we concede this to be true, and remember that the digestive capacity is still taxed to the utmost under normal conditions, we cannot overlook the fact that a middle ear infection, or anything else causing the child discomfort would bring about a digestive disturbance. Conservative treatment at this point with good nursing care is usually all that is necessary. Teething rings, although rather unsanitary, are not particularly harmful, but the lancing of gums is both a cruel and dangerous procedure. If worms are found, steps should be taken to eliminate them, and this is not easy. It is like scabes and other things that attack whole families. The treatment is that of eradication of the source of infection, and getting rid of the worms by the various methods found to be efficient. However, it cannot be done by one or two doses of Janes vermifuge, but must be done thoroughly and efficiently over a long period of time.

Prevention is our first line of defense in the treatment of infants and children. The resistance should be built up by the proper administration of the various vitamins, especially those of known value such as A and D to prevent rickets, B_1 combinations with riboflavin, and vitamin C. Vitamins A, D, and C are given routinely to all infants, and it is my custom to give rather large doses of the B complex after depleting illnesses where there is usually loss of appetite, and sometimes vomiting and diarrhea.

The Committee on Contagious Diseases of the American Academy have recommended three immunizing procedures, all to be given within the first year of life: 1. Immunization against whooping cough with Sauer's vaccination at 8 months, 2. immunization against diphtheria at nine months, and 3. vaccination within the first year. Some men have combined tetanus and toxoid with the recommendation of an additional injection of 1 cc. of tetanus toxoid each year. Other men have combined whooping cough and toxoid in the same office call. These procedures are not recommended by the Committee. While I do not believe that all men should give the same advice on all procedures, I certainly think that the men who treat children should agree to give the same advice in regard to the immunizing procedures recommended by this Committee. If we could formulate some system by which all children could be immunized the first year against diphtheria, whooping cough, and small pox we would go far in our fight against the incidence of these diseases.

The five doses of scarlet fever serum, although recommended, is still a questionable procedure, and is not recommended until well up in the end of the second year. As we all know, scarlet fever is a treacherous disease. Many children have it and are hardly sick enough to be put to bed, and yet will infect another child who develops a fulminating case. Knowing the danger and complications of this disease, I strongly recommend that children two years or over be immunized, in spite of the fact that you are liable to make enemies of both mother and child. However, it should be explained that the procedure is not proof against the child having the disease, and that we only know that it reduces the incidence and severity, and those who are immunized are not so apt to have complications. The use of sulfa drugs has proven disappointing in scarlet fever. Convalescent serum and a new antitoxin recently produced have proven to be life-saving measures in fulminating scarlet

fever. Dr. Hoyne of Chicago thinks that convalescent serum given to exposures will immunize for about ten days. If the exposure is continuous, or the child is re-exposed, it is well to give another treatment.

There is no immunizing treatment of proven value against measles. Placental globulin and convalescent serum given after exposure in small doses have been found to be valuable in preventing severe attacks, but do not give permanent immunity.

Up to date we have no proven immunizing procedure against upper respiratory infection, so as a preventive measure, we have to rely on the general health of the child, building up his immunity by balanced diet, removal of all sources of focal infection, and a toughening process consisting of keeping the environment that of body temperature rather than that of a sweat bath. Much of the susceptibility of children to infection is due to super-heated houses, bundling for zero temperature in mild weather, rags around the neck, greasy messes on the chest, and lack of the proper amount of rest.

It has been my observation that each year we have a different type of virulence and sequilla in upper respiratory infections. A drug that seemed to prove efficient last year has little or no effect on the condition this year. One year we will have complications of pneumonia, the next year a run of rheumatic conditions, and possibly another year many severe middle ear infections with mastoiditis and mastoid operations as an end result. This year we have had a great many gastro-intestinal upsets as the result of upper respiratory infection. Therefore, it is impossible to say that a certain line of treatment is specific. The past few years we have been more and more amazed and gratified by the apparent therapeutic effect of the sulfa drugs, and it is hoped that this time we have found something that is specific in its effects, rather than the effect being due to the change in the virulence and type of infection. The treatment is still symptomatic, but we have found it advisable not to give other drugs when we are giving the sulfa drugs. We also feel uneasy when we are giving these drugs in full doses in the home where we cannot watch the effect by laboratory procedure.

There is one other old enemy — diarrhea, especially the type that we get in the summer months, for which we hope we have found a drug in the form of sulfaquanidone that will prove specific. The treatment of the disease has gone up and down the scale from castor oil, paregoric, bismuth preparations, starvation and various types of astringent enemas. At the present time we confine our treatment to absolute rest, a non-irritating diet with as high a caloric value as possible, keeping up the water balance, blood transfusions if necessary, and large doses of sulfaguanidine. Sulfathiazole and sulfadiazine sometimes have to be substituted. In spite of arguments for and against, we still like to give sodium bicarbonate with the sulfa drugs, especially in diseases of children.

SUMMARY

In summing up, I want to emphasize: 1. that the treatment of infants and children depends upon applying proven scientific methods to the individual child; 2. the adoption of a uniform plan in the use of immunizing procedures approved by a special committee appointed by the County Medical Associations; 3. older children, especially those who have not been immunized, should be given the Schick test and the Dick test, immunized if positive, and re-vaccinated before entering the first year of school; 4. we no longer give drastic cathartics to work off colds; 5. Rest is important. I was impressed several years ago in talking with a woman about her sick child during the flu epidemic in the World War. She stated that she and the doctor sat up all night and gave medicine every fifteen minutes, and I told her that she must have had a damned tough child!

VIRUS PNEUMONIA

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Until a few years age pneumonia had been considered a dreaded disease. Recently however the mortality rate has been reduced from 30% to less than 10%.[1] This has been attributed to a large extent to the prompt and widespread use of the new sulfa drugs. When indicated, chemotherapy is used in conjunction with anti pneumococcal serum. However, when the pulmonary infection is not pneumococcal in origin

and does not respond to these new chemicals, we find ourselves at a loss as to further treatment.

That such cases do occur, is evidenced by the numerous reports which have been coming in from various sections of the country, and from our own observations here in Chicago. These conditions have been labeled atypical pneumonia, acute pneumonitis, bronchopneumonia of unknown etiology (variety X), atypical pneumonia of unknown etiology and virus pneumonia. The latter name seems to be the one most widely used.

Gallagher[2] reported eighty seven cases in 1941. Thirty two cases have been reported by Longcope.[3,4] Recently, August 1942, Markham[5] reported one hundred seventy five cases from Fort Osborne Military Hospital in Canada. Other reports found in the literature are those of Reiman[6], Weir and Horsfall[7], Hornibrook and Nelson[8], Kneeland and Smetma[9] and Moss.[10] The new publication "War Medicine",[11] devotes a special article to this disease in its issue of March 1942.

This type of pneumonia is still present here and elsewhere in considerable numbers. It is too early to draw any final conclusions, but enough cases have already been observed to make possible this preliminary report.

Etiology — In Chicago we have been witnessing these pneumonias since the beginning of 1942. Its incidence seems to be increasing. Most of the cases occur in young adults between the ages of twenty and forty five. It is more prevalent in women. Apparently it is communicable, as many of the patients contracted the disease after nursing other such patients. Institutional epidemics have been reported by Gallagher,[2] Markham[5] and others.

Bacteriology — Careful studies have been made of the sputum and blood of many such patients. The outstanding feature is the failure to isolate from the sputum any bacteria which are usually held responsible for most pneumonias. J. Markham[5] in his studies found the sputum of these patients to contain the usual flora seen in normal individuals. The blood cultures as a rule are negative. Stickney and Heilman[12] of the Mayo Clinic, have made a very careful study of one such case of atypical pneumonia and have successfully isolated a virus which is antigenically related to the virus of psittacosis.

Symptoms — The incubation period is anywhere from five to fifteen days. The onset may be sudden with a chill, but usually is gradual with lassitude, marked weakness and severe headache. A hoarseness may develop during the first few days. About the third or fourth day a dry cough makes its appearance. This later becomes paroxsymal in character, somewhat productive and may last for several weeks after the patient has been temperature free.

Clinical Findings — The patient is markedly prostrated, but does not appear to be very ill or toxic. The breathing is neither increased nor labored. There is usually no cyanosis. The temperature varies between 100 and 104 and the pulse is only slightly increased. The fever will last from seven to fourteen days. In rare cases it may last as long as three to six weeks. Relapses in temperature are common.

Physical examination of the chest reveals very little during the early stage of the disease. Later one may detect slight impairment of resonance in one or more areas. This is usually accompanied by some fine inspiratory rales. By the end of the second week, the findings tho not marked, are diffuse and bilateral as a rule. Only in the unusual case does one find definite dullness and marked bronchial breathing.

Laboratory Findings — As was mentioned above blood cultures are usually negative. The sputum is thick grayish white and mucoid in character. It is not blood streaked. Further microscopic and bacteriologic studies reveal nothing unusual. The leucocyte count varies between 6,000 to 10,000 with a normal differential. The sedimentation rate is only slightly increased. X-ray of the lungs usually reveals bilateral infiltrative processes starting at the hilum but not extending to the periphery. This may account for the scarcity of the physical findings. In the exceptional case the x-ray may reveal a consolidation of one or more lobes.

Clinical Course and Treatment — Practically all patients get well. Complications are rare. The few deaths that have occurred, have been in old people who had associated degenerative changes in other parts of the body. The temperature usually drops by lysis after about seven to fourteen days and as mentioned above, may

last three to six weeks. None of the sulfa drugs seem to have any effect. Occasionally stopping the drug will be followed by a drop in temperature. In a number of cases antipyretics of various kinds seemed to be of value. Some did not respond to any medication. There the treatment is chiefly symptomatic. If the cough is disturbing a sedative cough mixture is usually prescribed.

DISCUSSION

The symptoms, clinical and laboratory findings as given above, speak for a specific clinical entity. It is possible that such cases existed in the past, but because of the scarcity of physical findings x-ray studies were not made and the pulmonary infiltrative processes were overlooked. However, this unusual form of pneumonia has now been reported with greater frequency from various sections of the country. It has been prevalent also during the past summer, at a time of the year when upper respiratory infections and pneumonias are at a minimum. It seems to be communicable and outbreaks have been reported in institutions and camps. Is it possible therefore, that these atypical virus pneumonias which we have been seeing in increasing numbers during the past nine months, represent the first wave of an epidemic which may in some way be related to the much dreaded influenza epidemic?

SUMMARY

1. A present widespread occurrence of an unusual type of pneumonia is described.
2. This pneumonia is thought to be due to a virus.
3. None of the sulfa drugs seem to have any effect on the course of the disease and temperature curve.
4. The question is raised as to the possible relationship of this disease to an influenza epidemic.

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A THEORY ON THE ORIGIN OF CANCER

Preliminary Report

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It is the purpose of this paper to present a preliminary report of a theory on the origin of cancer and a method of treatment. A review of the literature for the past twenty years failed to reveal any work that had been done which might be considered analyolous to the theory and form of treatment herein presented. Although the material that we have to present (in this report) may appear to be meager and incomplete, we felt that because of our present uncertainty in proceeding with this work, due to the war, an introductory resumé is profitable.

Normal tissue grows in an orderly fashion and definite pattern. Its growth ceases when it becomes a physiologic functional structure. Cancer, on the other hand, is a spontaneous progressive new growth of tissue, characterized by a lack of order of its cellular structure, with little or no differentiation or organization, whose sustained progressive growth will produce ultimate death to the host.

Age, anemia, heredity, carcinogenic substances, irritation, irradiation, trauma, tissue sensitivity, embryonic cell rests, and nerve influence are among the many predisposing and inciting factors of cancer. But the isolated factors in themselves are insufficient to produce cancer unless perhaps there is a disturbance of balance in the

growth control. The isolated predisposing causes may be present in many people and yet they do not develop malignant growths. A constant pipe smoker may not develop carcinoma of the lip but may, however, develop a cancer elsewhere in the body. The explanation can be designated to our present knowledge of hormonal activity, by the specificity of action of hormones on specific tissue. As proof of tris specificity of hormonal action, it is well known that estrogenic substances will cause hyperplasia of breast tissue, vaginal mucosa and endometrium; that pregnancy stimulates cancer of the breast tissues, ovaries, and uterus to more rapid growth, but does not have much effect on cancer of other organs: in fact, it may cause an actual regression of growth in some structures.

Hence the etiology of cancer cannot be merely designated to the predisposing factors mentioned above. But the presence or absence of specific growth controlling hormones for specific tissues is considered as a vital factor in balancing the pattern of tissue growth.

In the search for a most abundant source of growth controlling hormones, the pregnant mother at term should be selected for the following reasons: first, the embryonic cells possess more than any others the essential pattern of tumor growth: (Cohnheim's theory of the embryonal cell rest was founded on this fact); second, it is presumed that as a result of the supply of growth controlling factors or hormones the embryo develops into a well organized and differentiated organism; third, hormonal activity is at its highest peak in the last days of pregnancy or at full term as shown by the increase in the amount of known hormones in the mother's blood stream from the beginning of pregnancy to the end. (Wold-Endocrinology in Modern Practise).

Urine collected from the pregnant mother during the second stage of labor and umbilical cord serum obtained immediately after the severance of the cord was used in the treatment described further. The urine was rendered sterile by passing it through a Berkfeldt filter, collecting and capping in bottles under sterile conditions and found to be sterile after the above described technique was used in preparing the material, and in no instance did infection result from its injection subcutaneously.

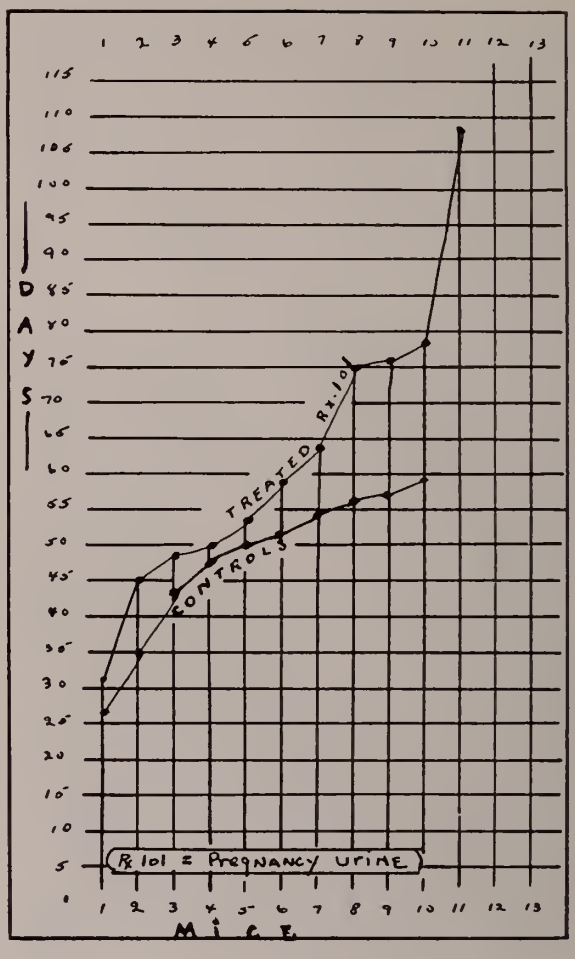


Figure A

The experimental data that has been compiled is promising although admittedly incomplete. Mice in whom spontaneous tumors developed (carcinoma of the breast) and a group of A. B. C. mice in whom sarcoma 180 were transplanted were used as both control and treated subjects. All mice were obtained from the Roscoe Jackson Memorial Laboratory, Bar Harbor, Maine. The same technique was used in transferring the tumor in each experiment so that all animals received approximately the same amount of tumor tissue. The tumor was cut into fine pieces, a small portion was placed inside the bevel of a 16 gauge needle and the needle inserted subcutaneously in the abdominal wall. The stilet was then pushed beyond the end of the bevel — thereby depositing the tumor tissue in the abdominal wall as the needle was removed. After having been transplanted, the mice were divided

into two groups, one left untreated and kept as controls, the others given ¼ cc. of a 50% dilution of pregnancy urine daily beginning the day following the transplantation.

Although the mice in both groups developed tumors, Figure A shows the contrast in the life span of the mice that were treated as compared to the controls. The average lifetime of the treated mice was 63.09 days as compared to 47.7 days for the control group. Another interesting observation was that the untreated mice all died within 35 days after the death of the first mouse, while the treated mice all died within a span of 82 days after the death of the first mouse in the treated group.

This experiment was repeated in another group of transplanted tumor mice and the treated group were given ¼ cc. of cord serum subcutaneously daily. The average life span of the control group was 30.4 days and of the treated group 56.2 days. Figure B also bears out the fact that the entire control group were dead within 20 days after the first mouse died in that group. In the treated group of that series, although 4 mice died on the 36th day after transplantation of the tumor, the majority lived over a span extending between 42 and 81 days after transplantation. In the spontaneous tumor groups the observations described above were

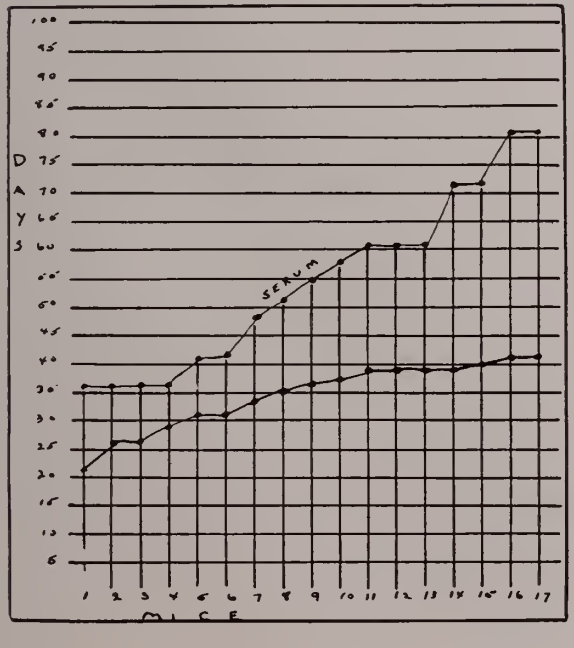


Figure B

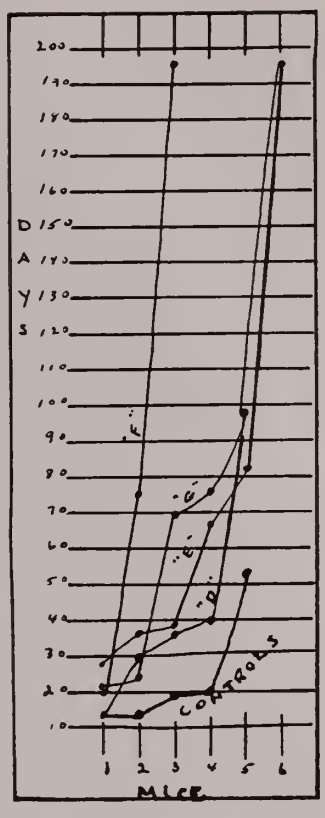


Figure C

again confirmed as shown in Figure C. Groups D and E of the spontaneous tumor mice were treated with pregnancy urine, and groups F and G were treated with cord serum.

The histological pictures in the tumors of the treated mice revealed considerably more necrosis than in the untreated group. These observations were made by Dr. A. Mathews, pathologist of the St. Anthony Hospital in Rockford, Illinois, and by Dr. H. Rusch, pathologist at University of Wisconsin. However, these men did qualify their findings with the remark that the areas of the tumors selected for sectioning may have differed in the degree of necrosis. Care was taken, however, in selecting the healthiest appearing tissue for sectioning and study.

SUMMARY

We have repeatedly mentioned the fact that we are fully aware of our inconclusive results; nevertheless, the laboratory findings do show a spark of future possibilities. The material was also used in several cases of inoperable carcinoma in human beings, and here again we observed what we considered interesting and ben-

eficial, yet inconclusive results. The results in the clinical cases were based on the fact that these individuals were relieved of their symptoms and were able to carry on their daily routine. We are not including our clinical case reports in this paper, because of the comparatively short time which has elapsed since the beginning of this work, although one case has been treated for 18 months and several others for a year.

Perhaps the work which has been started may find its way to the interest of investigators with better facilities to carry on such an experiment and thereby determine the true worth of our efforts.

CONSIDERATIONS REGARDING THE DEPTH OF ANESTHESIA

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Not long after I graduated I had to reduce a fractured hip and put on a plaster spica. The reduction of the hip happened to prove simple; but in the application of the cast I encountered one difficult problem, I did not know when to stop. Many situations in medicine present similar problems. How much or how little of a drug is required? It may be digitalis, or sulfanilamide, or thyroid extract. The skilful physician knows the usual requirements but he also realizes that the ultimate decision depends on the patient's reaction to the drug. He must be able to recognize both the therapeutic effect and the hazards and manifestations of overdosage.

The same principle is of upper-most importances in anesthesia. We can only estimate within wide limits the requirements of each individual, and we rarely know what concentration of the drug is actually in the patient's body. Only a blood analysis, or at least a gas analysis of the contents of the breathing bag, would give us the actual figures. Fortunately, they would be of academic interest only. I like to take the view that the patient does the gas analysis and it is for us to evaluate his results and to correlate them with the requirements of the surgical procedure.

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The chief purposes of anesthesia are to abolish pain, to prevent the patient from moving, to obtund certain troublesome reflexes, and to produce muscular relaxation. These conditions vary with the depth of anesthesia. Anesthetists divide the depth of general anesthesia into four stages. For simplicity, I am going to omit these details and discuss chiefly the third stage or stage of surgical anesthesia. The anesthetist divides this stage into four planes, but again for simplicity, I will limit myself to the terms light and deep anesthesia.

The stage of surgical anesthesia is entered when the eyelid reflex is abolished. This can be determined by pulling up the eyelid, and, if necessary, stroking the eyelash a little. In surgical anesthesia there will be no muscular effort to close the eye. Loss of the lid reflex may be taken as an indication that the patient will have no consciousness of pain, although he may show some reflex reaction to stimulation. About this level, also the gagging and vomiting reflexes are obtunded. For smooth anesthesia these reflexes must be kept obtunded.

In light surgical anesthesia, provided there is no respiratory obstruction, the breathing is deep and regular. As deep anesthesia is approached, intercostal paralysis gradually develops, and in very deep anesthesia the breathing is carried on entirely by the diaphragm. This can be recognized by elevation of the abdomen while the chest remains stationary or even sinks in on inspiration. Since respiratory obstruction can simulate this picture, it is necessary to be sure that there is a free airway. The best single guide to the depth of anesthesia is the depth of respiration. As long as there is an adequate respiratory volume, one can be sure that the anesthesia is not too deep. Shallow inadequate respiration suggests the approach of the fourth stage, or stage of respiratory arrest. Transition to fourth stage anesthesia does not mean that the patient is dead. It means that he is not getting oxygen and will die unless that is supplied by artificial respiration. Supplying oxygen or air and permitting elmination of the anesthetic agent will quickly restore spontaneous respirations.

As anesthesia progresses, muscular relaxation increases. This is the chief indication for deep anesthesia.

Not all anesthetics are capable of producing deep anesthesia. Nitrous oxide and ethylene can produce only very light anesthesia. Some patients cannot even be anesthetized with these agents alone. Overdosage with nitrous oxide or ethylene does not result in the usual effects of deep anesthesia but involves such reduction in oxygen that serious oxygen want ensues. It is important to bear in mind that the signs of oxygen want may be mistaken for signs of too light anesthesia. Muscular contractions, laryngeal stridor, retching, rapid breathing, and increased pulse rate, though suggestive of too light anesthesia, may be the result of oxygen want. Cyanosis is not always present. If the mistake is made of giving more of the anesthetic agent, serious results may ensue.

Ether, chloroform and cyclopropane are all capable of producing deep anesthesia, although cyclopropane usually produces less relaxation. Intravenous anesthetics, evipal or pentothal sodium, can produce deep surgical anesthesia, but are less reliable and more difficult to control. Avertin, administered by rectum, reaches its full effect in about one-half hour. It can produce deep anesthesia, but, since the required dosage has to be estimated beforehand, the resultant depth is obviously uncontrollable. It can only be used safely in doses which will produce very light anesthesia. Added depth can be obtained by addition of an inhalation anesthetic such as nitrous oxide. Respiratory depression or arrest must be guarded against whenever any potent agent is used, particularly those administered by intravenous or rectal injection.

The depth of anesthesia required for any surgical procedure has an important bearing on the choice of preoperative medication, anesthetic agent and technic.

Regarding premedication, a simple rule is that the deeper the anesthesia required the less sedative should be given. This apparent paradox is based on the fact that such drugs as morphine and the barbiturates increase the respiratory depression, and in deep anesthesia they make it difficult to administer enough anesthetic, and they increase the hazards of oxygen want and carbon dioxide excess. If nitrous oxide or ethylene is to be used, quite heavy premedication is indicated as these agents require the added sedation. For cyclopropane anesthesia very light premedication is indicated.

Regarding the choice of anesthetic agent, it is obvious that nitrous oxide and ethylene are suitable only for those operations which do not require muscular relaxation. For good relaxation one of the more potent inhalation agents should be selected, and while much can be accomplished with cyclopropane, ether remains the safest agent when profound relaxation is required. Intravenous anesthetics should be used only for short simple operations because prolonged control in deep anesthesia is difficult and hazardous. They should be used by a competent anesthetist who can take care of respiratory problems and who has an assistant to administer the drug.

Regarding the choice of technic, the chief consideration pertains to the use of endotracheal anesthesia. While the endotracheal technic has many other uses unrelated to the depth of anesthesia, it is of great value in cases of abdominal surgery where deep relaxation and freedom from the straining caused by respiratory obstruction are important.

One further consideration regarding the choice of agent and technic must be stressed. Apart from one or two distinct limitations such as lack of potency of nitrous oxide and ethylene, almost anything can be done with almost any agent and technic. The choice is largely dependent on the experience, ability and preference of the anesthetist.

Perhaps this paper should have started with the question "Why bother about the depth of anesthesia?" Like all things in medicine, the answer involves the best interests of the patient. The patient pays a high price for too deep anesthesia. He also pays a high price for too light anesthesia. Like all things in medicine, there is an optimum.

Let us consider the hazards of too light anesthesia. If the anesthetist inadvertently lets the patient come up to the verge of the third stage, the surgical trauma may affect the patient's nervous system, causing more tendency to shock. Even more troublesome may be the return of certain reflexes. Vomiting may occur. The pharynx fills with vomitus and the patient may aspirate some foreign material. In his

efforts to remove the vomitus by suction or other means, the anesthetist is forced to interrupt administration of the anesthetic and still lighter anesthesia and greater disturbance of reflexes occur. The course of the anesthesia is no longer smooth. High concentrations of the agent, irritant to the respiratory tract, are administered in an effort to recover the ground that has been lost. Even if vomiting does not occur, gagging and laryngospasm may develop with respiratory obstruction, oxygen want, etc., necessitating the administration of irritating concentrations of the agent, and so forth. All this injures the patient's immediate condition and leads to post-operative pulmonary complications. Another aspect of too light anesthesia is that it may hamper the surgical procedure. Muscular tension or movement may in a moment undo a carefully executed orthopedic operation. Lack of adequate relaxation adds immeasurable difficuties to the work of the abdominal surgeon, leads to greatly increased reflex stimulation, trauma to viscera, longer operative time, imperfect surgical results, and to great irritability on the part of both surgeon and anesthetist. The anesthetist must accept the responsibility of producing smooth anesthesia of adequate depth to meet the surgeon's needs. A prominent surgeon once told me that he had visited a well known surgical clinic for several days. In every operation he witnessed the surgeon had to stop his work at least once to let the anesthesia technician establish more satisfactory anesthesia. There is no need for surgeons to tolerate such inept assistance, nor to subject their patients to such unnecessary insults. Good anesthesia can and should be provided for all surgical patients.

Let us consider now the hazards of too deep anesthesia. The anesthetist is tempted to play safe and give more anesthesia than is necessary. The surgeon is tempted to ask for more relaxation than is necessary. In each case the patient pays a price. Deep anesthesia causes respiratory depression, inadequate ventilation, oxygen want, and carbon dioxide excess. The oxygen want may not be sufficient to cause obvious cyanosis but it may show itself in an increased pulse rate and a falling blood pressure. The carbon dioxide excess disturbs the acid base balance and undoubtedly causes other serious results. Irregular jerky breathing in very deep anesthesia is usually due to carbon dioxide accumulation. The disastrous convulsions which sometimes occur in deep anesthesia are probably related to carbon dioxide excess. Deep anesthesia in the hands of the incompetent anesthetist has the added hazard that it verges on inadequate respiratory exchange or even respiratory arrest. In either case the patient may die from acute oxygen want. The well-trained anesthesiologist, on the other hand, recognizes the inadequacy of the respirations, and, if necessary, may maintain very deep anesthesia for the surgeon's benefit while supporting the respirations by artificial means.

Prolonged deep anesthesia has a serious effect on the circulation. Profound muscular relaxation deprives the venous system of its normal support, respiratory depression removes a mechanical asset to circulation, and deep anesthesia has a depressant effect on both the vasomotor center and the tone of the peripheral vessels. All these factors combine to produce shock.

Sometimes the abdominal surgeon's work can be facilitated by lightening rather than deepening the anesthesia. In very deep surgical anesthesia, when the intercostal muscles are paralyzed the diaphragm is carrying the whole respiratory load and its action may become aggravated and jerky. This disturbs the surgeon. If the anesthesia is lightened to permit intercostal activity the diaphragmatic movement may subside and working conditions improve.

In most abdominal operations the surgeon requires the greatest relaxation at the time he opens the peritoneum, explores the abdominal cavity and packs off the intestines, and again at the time he is closing the peritoneum. A good anesthetist will provide deep anesthesia for these procedures but will lighten the anesthesia during the intervening period.

Deep anesthesia adds to the post-operative pulmonary complications. It results in a longer period of depression after the operation. The prolonged relaxation, respiratory depression and obtundation of the respiratory reflexes increase the dangers of atelectasis and aspiration pneumonia.

A word may be said here about regional anesthesia. For abdominal surgery nothing produces better relaxation than a spinal anesthetic. Undoubtedly spinals have answered the problem of

relaxation for many surgeons who otherwise had to tolerate unsatisfactory inhalation anesthesia. This method, of course, has its drawbacks as well as its advantages, and the debate on spinal vs. inhalation anesthesia still goes on. Probably the best answer at present is that each clinic should use the method which proves most satisfactory in their hands. It is generally agreed, however, that for high abdominal operations in poor risk patients spinal anesthesia is undesirable. In such cases a very useful method is to combine light inhalation anesthesia with an intercostal block or an abdominal wall block to produce the necessary relaxation. Occasionally when efforts to produce adequate relaxation with inhalation anesthesia fail, the surgeon can help the situation by injecting a local anesthetic into the rectus muscle.

I have tried to present a paper which will be helpful to the average surgeon. I believe that better understanding of such problems leads ultimately to greater confidence. Good anesthesia can produce all the working conditions which the surgeon requires with a minimum of hazard to the patient. The surgeon's peace of mind, as well as the patient's welfare, will depend on the confidence and understanding that exist between surgeon and anesthetist. A competent anesthetist who understands the physiologic and pathologic processes involved can co-operate with the surgeon in providing the necessary working conditions, and at the same time guard against unnecessary damage to the patient.

By judicious choice of anesthetic agents and technics; by careful individualization of the preoperative medication; by proper control over the respiratory mechanism, avoidance of obstruction and support of respiratory exchange when necessary; by careful observation of the signs of anesthesia and avoidance of sudden disturbances; by constant evaluation of the patient's general condition; by judicious use of regional anesthesia when indicated; by supervision of the post-operative period of depression; by these and many other contributions a competent anesthesiologist with the confidence and co-operation of the surgeon can safeguard the welfare of the patient, which is the ultimate aim of all concerned.

SUMMARY

The dosage of general anesthetic agents required in any case cannot be accurately foretold. It must be gauged according to the patient's response. The depth of anesthesia is estimated on the basis of the signs of anesthesia. Nitrous oxide and ethylene can produce only light surgical anesthesia and attempts to produce deeper anesthesia with them result in oxygen want. The depth of anesthesia required for the proposed operation has an important bearing on the choice of premedication, anesthetic agent, and technic. The deeper the anesthesia the less premedication should be given. For good relaxation one of the more potent anesthestics should be used. There is an optimum depth of anesthesia in every case. The patient pays a high price if the anesthesia is too light for the surgeon's work. He also pays a high price for too deep anesthesia, which should only be used when the surgical procedure requires it. Regional anesthesia in selected cases aids in producing adequate relaxation. A competent anesthetist can do much to avoid the hazards of anesthesia.

DISCUSSION

Dr. Hugh O. Brown, Chicago: It is hardly necessary to add anything to Dr. Cassels' excellent presentation on anesthesia. He has emphasized that the anesthetist has the best control over the depth of anesthesia with the volatile and gaseous inhalation agents. In the event of inadvertent overdosage and depression of respiration, the drug can be withdrawn and the anesthesia quickly lightened. This is not the case with intravenous, rectal, or spinal anesthesia, in which the error of an excessive dose may be beyond correction. The drug cannot be withdrawn, but must be detoxified and excreted before its action subsides. If the circulation is unimpaired, and if respiration can be supported with oxygen and artificial ventilation for a while, disaster may be averted. In view of these possible complications with intravenous, rectal, and spinal anesthesia, these methods should not be attempted by physicians without special training and experience, and one should always have at hand an apparatus for efficient resuscitation with oxygen.

Spinal subarachnoid anesthesia is an ideal anesthetic for intraabdominal surgery because

of the excellent relaxation it affords, but as Dr. Cassels has stated, is an unwise choice for the poor risk patient in high operations. Some of the high mortality in spinal anesthesia may be attributed to its use by physicians with inadequate specialized training, often for patients who present an unusual risk. The rare neurological residuals following spinal anesthesia are likely due to carelessness in technic, such as the injection of alcohol or other sterilizing solution unrinsed from needle and syringe, or due to poor judgment in choice of drug, dosage, and concentration.

Dr. Cassels has emphasized the importance of individualizing the choice and dosage of preliminary medication. In large and busy clinics, such as at Cook County Hospital, we often see the consequences of routine premedication. Many patients may come to the operating room inadequately depressed, and therefore more difficult to anesthetize, whereas in others the effect may be excessive. It should be hardly necessary to warn against administering any anesthetic other than local to the patient in a semicomatose state, whether the depression be due to drugs or disease.

Most anesthetic accidents and complications are due to respiratory obstruction. We must be eternally vigilant in maintaining patency of the airway, and adequacy of the pulmonary ventilation. Even slight degrees of oxygen want should be prevented. As training of physician anesthetists increases in volume, the valuable endotracheal technic should become available to more of our state's surgeons.

Special training in anesthesia is available at several hospitals in Chicago, in the form of short post-graduate courses, or as full time residencies leading to certification by the American Board of Anesthesiology, and these facilities are soon to be used for training of medical officers in anesthesia. The need in the armed services for physicians trained in anesthesia is great, so all with experience or interest in this field are urged to apply.

THE MYTH OF POSTOPERATIVE PNEUMONIA

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CHICAGO

Symptoms and signs indicating pulmonary consolidation are frequently present following operations upon the abdomen, especially such surgical procedures as involve the gastrointestinal tract. It is the major premise of this paper that when under such conditions the diagnosis of postoperative pneumonia is made, upon the clinician rests the responsibility of excluding a spreading peritonitis as a direct cause of the pneumonia. As a part of that premise we wish to state that, except for pulmonary atelectasis, pneumonia appearing in the first seventy-two hours after potential gross soiling of the peritoneum in the majority of instances represents a spread of infection from the peritoneum and the clinical signs of pneumonia are frequently detected before the causative peritonitis is suspected.

As surgeons we have no special interest in pneumonia, but we are interested in such basic errors in diagnosis as may divert our attention from complications developing within the field of operation. It has been my experience that the early diagnosis of spreading peritonitis as an operative accident is frequently not made, though the incidence of peritonitis as a postoperative complication has sharply decreased in the past decade or less.

It will be recalled that it is only twenty years or so since we began to recognize the frequency of postoperative pulmonary collapse, which, prior to that period, was considered to be a so-called aspiration pnéumonia. We have established the mechanism of this lesion by the prophylactic use of CO_2 inhalations and by the bronchoscopic removal of mucous plugs when collapse does occur.

Among the various complications responsible for morbidity and mortality folowing abdominal operations spreading peritonitis still takes first place. Occurring as it does following procedures

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of major severity, it is less easily diagnosed in the invasion period than when it occurs by extension from such inflammatory foci as appendicitis, perforation and the like, because the clinical picture upon which we base our diagnosis of diffuse peritonitis does not always unfold itself in the same manner postoperatively.

The most frequent sources of operative contamination of the peritoneum are soiling from stomach or intestinal contents during open bowel resection, leakage from a suture line, accidental soiling of clean surfaces from a local suppurative process, such, for instance, as an appendiceal abscess, or less frequently, accumulations of bile or possibly urine. The extent and severity of peritoneal reaction to such sources of contamination will vary widely, a fact known to every experimental worker with peritonitis who has tried to establish a lethal standard of this disease. Clinically we have no way of anticipating the nature of the reaction of the peritoneum to accidental soiling. One patient may develop a fatal diffuse peritonitis following what would apppear to be a clean cholecystectomy, while another will show but little reaction to gross soiling from an accidentally ruptured abscess. In one instance operative peritoneal soiling may produce a localized inflammatory process, in another spreading infection may result. In one instance an apparently benign source of contamination may produce a thin, scanty, fibrin-free exudate, with rapid spread not only over peritoneal surfaces, but also above the diaphragm. In other instances a bulky, fibrinous exudate that taxes the absorptive capacity of the peritoneum will result in a less widespread, and hence more benign type, of infection. Therefore, we are never safe in assuming that we can exclude postoperative peritoneal infection, because we have not consciously permitted any peritoneal soiling.

The nature of the reaction of clean or uninflamed serous membrane in the immediate vicinity of a suppurative process is a familiar phenomenon. This reaction consists of a sterile serous effusion. Thus, acute osteomyelitis of the long bone produces effusion into adjacent joints. A completely isolated appendiceal abscess produces a serous effusion, so-called "free fluid" in the unaffected peritoneum. Subphrenic space infection produces a pleural effusion on the same side. Peristing sub-phrenic abscess may ultimately result in empyema on the same side, but rarely is followed by pneumonia. On the other hand, in both experimental animals and in man practically every serious or fatal diffuse peritonitis will produce a varying extent of pulmonary consolidation. Micro-organisms are capable of invading the pleural sac by direct extension through the diaphragm and also by extension from the mesenteric lymphatics to the mediastinal and peri-bronchial lymph nodes. This has been repeatedly demonstrated experimentally by the intraperitoneal injection of suspensions of pigment and by the demonstration of pigment particles in mediastinal lymph nodes. Hence, pleural effusion or suppuration would appear to follow by direct extension or by contiguity of tissue through the diaphragm, whereas diffuse infections of the peritoneum are transmitted by way of the deep lymphatics. We have been particularly sure of the latter statement, first, because we have observed pulmonary complications following diffuse peritoneal infection that did not involve the diaphragm, and second, pulmonary lesions secondary to peritonitis are patchy in type and frequently bilateral. In virulent diffuse peritonitis the infection spreads rapidly over visceral and parietal surfaces, particularly when the exudate is either scanty or thin and watery. Widespread involvement of peritoneal surfaces will commonly occur within seventy-two hours from the time of initial contamination. There is evidence from clinical observation that extension to the lungs, when it does occur, will be found in this period of time and too frequently the clinical signs of such pulmonary involvement are found while the underlying peritoneal involvement is still unsuspected.

These pathologic and clinical observations support the many experimental studies that have been made on the function of peritoneal absorption. It is known, for instance, that crystalloid solutions are absorbed more rapidly than colloids and are taken up by the blood stream. Colloids or albuminous solutions or suspensions of particulate matter, of which pus is a good example, are absorbed by the abdominal lymphatics. While inflammation slows the rate of

absorption from the peritoneum, in virulent infections the exudate is often thin, due to scantiness or absence of fibrin. In the early stage or invasion period of spreading peritonitis there is less fibrin than in the later stages when the rate of absorption is slowed and when clinical improvement can be looked for. But it is during this invasion period when protection from fibrin is lacking that organisms most readily find their way into the abdominal lymphatics. Neither experimental or clinical observation will permit the assumption or conclusion that pneumonia following peritonitis is embolic, because of the fact that the early absorption of colloids during inflammatory reactions is by way of the lymphatics and not by way of the blood stream. This fact is borne out clinically by the diffuse character of the pneumonia that is found to complicate spreading peritonitis.

There are two chief reasons for failure promptly to recognize postoperative peritoneal infection. First, as previously indicated, the invasion period is apt to be masked; second, both pneumonia and diffuse peritonitis have in common such symptoms as pain, fever, tachycardia, accelerated respirations, distention and anoxia. If we are not sufficiently careful, we may accept the lesion above the diaphragm as adequately explaining the clinical picture. Every patient who has a stormy first forty-eight or seventy-two hours following abdominal surgery should be considered as suffering from peritoneal contamination and infection until diagnosis can be excluded. A pulse rate which stays persistingly high on the days succeeding operation, particularly if the pulse rate be in excess of that usually accompanying the temperature elevation, is always suggestive. During this invasion period no one sign, in the opinion of the writer, is quite so significant as a rapidly falling urinary output. In our own experience, the combination of persistingly high pulse rate and scanty urinary output, or suppression, is strongly suggestive of spreading peritoneal infection. Excessive pain and exquisite tenderness are helpful signs. If, in addition, there is vomiting or if an indwelling stomach tube indicates a twenty-four hour retention of a litre or more, we have strong evidence of spreading peritonitis. In our experience rigidity has not been a reliable early sign of postoperative peritoneal infection. Paralytic ileus, while commonly present in the later stages of the disease, during the invasion period will frequently not be sufficient to cause pronounced distention and during this period often will be only detected by means of a scout film of the abdomen, but the presence of pulmonary findings in the first seventy-two hours should lead us to a deliberate study of the abdomen to avoid overlooking a masked peritoneal infection, from which this pneumonia took origin. Slight pulmonary changes, accompanied by a stormy course always suggest that the pulmonary lesion is not the chief source of trouble. We have, of course, seen postoperative pneumonias in which the subsequent course of the patient never enabled us to detect evidence of peritonitis. But even in such cases I am never quite convinced that a peritonitic area is not present.

It may be argued that the foregoing discussion is purely academic; that the source or origin of the pneumonia is not of major importance; and that no fundamental change in therapeutic attack is indicated. It is important to recall that the mechanism of death in widespread peritonitis is toxic absorption from the peritoneal membrane itself. It is granted, of course, that increased avenues of absorption, such as the lungs, materially add to the hazard, but it has been our experience that if the peritoneal situation is not serious, it is not likely that pneumonia will be the cause of death.

The treatment of diffuse peritonitis does not fall within the scope of this paper; furthermore, the principles of management are sufficiently well known. In previous papers we have called attention to the definite operative limitations in the treatment of postoperative diffuse peritonitis. It is often neither feasible or advantageous to re-open an abdomen when accidental infection of the peritoneum follows surgical procedures upon the gastrointestinal tract. Nevertheless, the increasing number of favorable reports upon the action of sulfathiazol indicate that we have a valuable offensive weapon in the treatment of this disease. But it is imperative that such treatment be instituted early.

A few words concerning the use of sulfonilamide compounds in diffuse peritonitis may not be amiss. The diminished absorptive capacity of the peritoneum in the presence of peritonitis applies far more to the colloid solutions than to crystalloids. The latter, even in the presence of widespread infection with a bulky exudate, are promptly absorbed, as evidenced by the presence of dextrose in the urine within five minutes after intra-peritoneal injection. Therefore, two facts pertinent to the intra-peritoneal use of these compounds should be emphasized.

First, because of its rapid absorption by the peritoneum, the local action of these drugs is far too transient to offer any advantages over parenteral administration. Second, a maximum blood level will be reached within a few hours, and there is just as much danger of over-dosage from intra-peritoneal use as from intravenous administration. The dumping of twelve or sixteen grams into the peritoneum immediately before closure, in the opinion of the writer, is a dangerous procedure. Absorption from peritoneal abscess, however, is very slow, and in these lesions the local action of the drug may be prolonged for days. In diffuse infection, my own preference is for intravenous administration.

By way of summary, it is pointed out that when signs of pneumonia and a stormy course appear in the first seventy-two hours after operative work upon the gastrointestinal tract, it will be safer and usually more accurate to assume that spreading peritonitis and not pneumonia is the major complication.

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WAR CASUALTIES AT PEARL HARBOR

The experiences gained from the handling of the wounded at Pearl Harbor on Dec. 7, 1941 will undoubtedly exert a definite influence on the further progress of treatment of war casualties, *The Journal of the American Medical Association* for December 12 declares in an editorial summarizing a symposium in the September-October issue of the *Hawaii Medical Journal* on the disposition of the wounded there on "Jap Sunday."

Regarding the symposium, *The Journal* says that "The authors and discussers were chosen from among those present and active on December 7, so that only first hand experiences are reported."

Lieut. Col. A. W. Spittler, in his discussion of the treatment of war wounds, stressed two principles, namely the thorough debridement or removal of all foreign matter and tissue immediately surrounding a wound, including all dead tissue in the vicinity, and subsequent open treatment. *The Journal* reports that it was his impression that the local use of a sulfonamide powder combined with administration of the drug by mouth, injection into a vein or beneath the skin had much to do with the reduction in the incidence of infection in wounds.

"Gas gangrene," *The Journal* says, "was combated by secondary debridement, a sulfonamide locally and generally, and x-ray irradiation. Commander Downes thought that the role of the sulfonamides in securing the amazing results was probably exaggerated. Many other favorable factors existed. The patients were a selected group of healthy young men in excellent condition and exceedingly well nourished. This being Sunday morning, they were clean, rested and not exhausted. In addition, the cases were treated by extremely competent and well trained surgeons. . . .

"In the treatment of shock, as outlined by Lieut. Col. C. T. Young, modern concepts of shock and shock therapy were successfully applied. These consisted of early treatment, even in the absence of clinical signs of shock. . . . The highest mortality rate came from abdominal wounds. However, about 50 per cent of these patients for whom operations was possible survived. The improvement in the rate of survival, as compared to the injuries to the gastrointestinal tract in the first world war, was probably due to the liberal employment of the sulfonamides intraperitoneally and orally. . . . Dr. J. E. Strode, in the discussion of chest wounds, emphasized in the importance of the first aid treatment of the sucking wounds of the chest. The hole is to be plugged immediately by almost any

method at hand. . . . Dr. R. B. Cloward outlined a rather conservative therapy for head injuries. . . . Morphine or other narcotics should never be given to a patient with a head injury. . . ."

Among the points regarding fractures contained in *The Journal* summary of the symposium is the statement by Lieut. J. D. Macpherson that because of the frequent necessity of transferring patients to the mainland open operation was favored in correcting the fracture.

"Lieut. Com. P. C. Spangler," *The Journal* continues, "points out that in burns it is important to treat the patient first for pain, anxiety and beginning shock. In the treatment of lesions, attempt is made to convert a soiled wound into a clean, aseptic wound. The burned area is washed with soap and water, debrided and sprayed with freshly prepared 10 per cent tannic acid solution, followed ten or fifteen minutes later by swabbings with 10 per cent silver nitrate solution. No dressings were applied. . . . For hands, feet, face and genitals 1 per cent sulfanilamide and petrolatum was used. Spangler expresses the opinion that this is perhaps the most satisfactory way of handling a large group of burns. Lieut. Com. Joseph Palma described the syndrome of blast injury of the lungs and of the abdomen. . . . He advises that in all war casualties, regardless of the type of injury produced, if there has been exposure to the detonation of high explosives, the integrity of the chest should be ascertained by x-ray examination, because general anesthesia is contraindicated when there is blast injury of the lungs. Oxygen is life saving and should be administered continuously. . . .

"It is gratifying, indeed, to learn that the Army, the Navy and the civilian medical personnel proved equal to the great emergency and delivered a service of the most advanced type. This symposium will undoubtedly exert a definite influence on the further progress of therapy of war casualties."

A RECOMENDATION

Note from one colleague, F. L. Washington, to another

To whom it may concern:

Mrs. Fanny Match has been in my employ for the past five and a half years and I am pleased to recommend her to any one needing an efficient secretary proficient in the following:

1. Diagnosis and treatment of mentally ill patients (this is particularly helpful during duck hunting season).
2. Ability to tell you what to do and when to do it.
3. Bouncer for all drug detail men and other undesirable individuals who take up your time.
4. Very good at convincing your patients you are not in even though you might desire to see them.
5. Answer all telephone calls and takes all messages which she transmits to you at her convenience, which usually is within the week at least.
6. Snippy to everyone, including yourself, but this is desirable as it keeps you very much on your toes at all times.
7. Takes dictation when it suits her mood and transcribes it at her leisure.
8. Does the bookkeeping in such a manner that no one knows what is going on — this is particularly helpful at income tax times.
9. Filing is taken care of so expertly that no one is ever able to find anything so we need not spend the time looking for any records.
10. Never expects to have more than 15 minutes for lunch and is only happy when working long after everyone else in the office has left for home.

Ten very good reasons why you should grasp the opportunity to have Mrs. Match in your employ and I trust you will be able to make her a sufficiently attractive offer so that I need not worry about ever having to see her again when I return from the wars. Incidentally, the rest room must be very handy if you are not to lose too much of her valuable time. J.A.M.A.



Honor Role

The list of names following are the physicians of Illinois now in the various branches of our armed forces. This list has been compiled from various sources and as a consequence, may not be entirely accurate. All names may not have been reported, especially names of physicians who are not members of the state society. It would be of much assistance if all readers of the Journal would check over this list and report corrections of any kind to the office of Dr. Harold M. Camp, Secretary, Monmouth, Illinois. Assistance in keeping our honor roll of physicians correct during this emergency is sincerely appreciated.

BY NAME AND COUNTY

Aagesen, Walter J., Knox
Aaronson, Abe L., Cook
Abbott, Gordon, Kane
Abbott, O. L., McLean
Abel, Stuart, Cook
Abelson, S. B., Cook
Abraham, Raymond L., Cook
Abrams, Benjamin, Cook
Abrams, Jack S., Cook
Abrams, Raymond H., Cook
Abt, Arthur F., Cook
Adams, Carroll O., Cook
Adams, J. E., Coles-Cumberland
Adams, Vail B., Cook
Adams, William E., Cook
Adamson, G. Norman, Cook
Adelman, Milton H., Edwards
Adelman, Robert, Richland
Adler, Edmund R., Cook
Adler, Samuel, Ogle
Afremow, Melvin L., Cook
Agate, George H., Cook
Aguila, Fernando I., Cook
Ahern, William T. A., Cook
Ahlm, Charles E., Cook
Ahnfeldt, Arnold L.
Ahroon, C. R., McLean
Aison, Emil, Cook
Ajalat, M. P., Cook
Akner, Frank J., Cook
Akre, Osmund H., Shelby
Albaum, Joseph, Cook
Albers, E. A., Will
Albin, Meyer S., Saline
Albrecht, Armand D., Cook
Albus, William R., Cook
Alderson, C. F., St. Clair
Alesi, Joseph J., Cook
Alexander, Howard G., Cook
Alexrod, Louis, Cook
Alford, Frank L., McHenry
Allaben, Gerald R., Cook
Allegretti, J. E., Cook
Allen, Glen I., Peoria
Allen, Harvey S., Cook
Allen, Hubert L., Madison
Allen, John B., Cook
Allen, Robert A., Cook
Allers, William D., Cook
Allerton, Roy Perry, Kane
Allison, Charles, Kankakee
Allison, O. W., Vermilion
Altman, H. P., McHenry
Alvis, W. P., Cook
Amberson, Julius M., Cook
Ambrose, Stephen H., Moultrie
Andelson, Mayo M., Cook
Anderson, Donald, Jefferson
Anderson, Donald W., Cook
Anderson, E. G., Winnebago
Anderson, Kenning M., Cook
Anderson, Perry, Winnebago
Anderson, Robert K., Cook
Anderson, Russell E., Calhoun
Anderson, Stanley, Winnebago
Anderson, W. J., Johnson
Andrews, Albert H. Jr., Cook
Ankner, Frank J., Cook
Anslinger, Cyril, Jefferson
Anspaugh, F. E., Macoupin
Anten, Hanford L., Cook
Anthony, Paul K., Cook
Appel, Ben Arthur, Cook
Appel, Simon E., Cook
Arends, G. W., Sangamon
Arenson, Gene J., Cook
Arenstein, Marvin Wm., Cook
Argent, Albert H., Lee
Aries, Leon J., Cook
Arlon, Ary J., Cook
Armalavage, Leon J., Cook
Armington, Frederick W., Cook
Armstrong, R. C., Champaign
Arnal, Paul J., Cook
Arnold, Sherman C., Cook

Arnoff, Joseph, Tazewell
Aron, Benedict, Cook
Arnow, Julius, Cook
Ascher, John P., Cook
Ash, Alfred S., Adams
Ashby, John S., Cook
Ashley, Franklin L., Cook
Ashley, Paul, Cook
Ashley, Richard W., Cook
Ashworth, A., Union
Ashworth, John, Cook
Athey, George L., Adams
Atlas, Donald H., Cook
Augenlicht, Jacob C., Cook
Austin, Fletcher, Cook
Austin, John O., Cook
Austin, Marvin F., Cook
Auten, Hanford L., Cook
Axelrod, David, Peoria

Backer, Meyer, Cook
Baer, Walter H., Peoria
Bagnuolo, Anthony, Cook
Bailey, John Milton, Cook
Bailis, J. M., Pike Co.
Baird, B. M., St. Clair
Baker, Alonzo N., Williamson
Baker, Edwin F., Lee
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Baker, Frank M., Macon
Baker, Lyle L., Madison
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Baker, Philip M., Cook
Baker, Wm. J., Cook
Balding, B. N., Kane
Baldree, C. E., St. Clair
Ball, Fred E., Cook
Ball, O. H., McLean
Ball, Wilber G., McLean
Ballard, George P., Cook
Ballin, Michael, Cook
Ballou, John W., Schuyler
Bancroft, Burton R., Cook
Banick, Thomas J., Cook
Banks, Samuel W., Cook
Banton, Huston J., Mason
Barak, Herbert G., Calhoun
Baranov, Lester J., Cook
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Barber, H. C., McLean
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Barbour, B. H., Marion
Bard, Eli, Cook
Bard, G. W., Iroquois
Barion, Evan M., Cook
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Barker, M. Herbert, Cook
Barkett, Soddie J., Alexander
Barnard, Robert D., Cook
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Barnett, Harry E., Cook
Barnett, Harry J., Cook
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Barrick, Lewis E., Cook
Barrick, Robert G., Cook
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Barron, Charles I., Cook
Barron, Elmer S., Cook
Barry, Fravel S., Cook
Barryte, Lucien E. Jr., Cook
Barter, Robert H., Cook
Barth, Earl E., Cook
Barthelme, F. L., Effingham
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Bartlett, I. E., Lee
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Barton, E. C., LaSalle
Barton, E. L., Jackson
Barton, Evan M., Cook
Barton, Harry L., Cook
Barys, Harold J., Cook
Baskerville, Edward M., Will
Bass, Howard H., Cook
Bateman, M. A., Clinton
Bates, Alvin F., Cook
Bates, Robert R., Will
Battaglia, Samuel, Cook
Batty, John L., Cook
Bauer, Carroll A., Adams
Baugher, J. C., Cook
Baugher, John O., Cook
Baum, Hugo C., Cook
Bauman, C. H., St. Clair
Baxley, H. W., Cook
Baxter, Edward S., Cook
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Bay, Anthony, Cook
Baylin, Felix R., Cook
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Beahrs, Oliver H., Cook
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Beatty, Jackson D., Grundy
Beazell, James M., Cook
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Beckette, Edmund S. Jr., St. Clair
Bedard, Robert E., Kankakee
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Beecher, Merrill C., Knox
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Bell, Julius N., Cook
Bell, William P., Cook
Belmonte, John V., Cook
Bendix, Richard M., Cook
Bengtson, B. N., Cook
Benjamin, Eustace L., Cook
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Bennett, Edward R., Crawford
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Berger, Irving R., Cook
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Berman, Benjamin B., St. Clair
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Bernstein, Theo. B., Cook
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Bowen, Wilbur L., DuPage
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Brochus, Charles E., Cook
Brock, Clayton E., Lake
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Brodsky, Abraham, Kankakee
Brodt, Leonard P., Cook
Brogan, Austin J., McLean
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Brown, Aubrey K., Cook
Brown, Bruce M., LaSalle
Brown, Carroll A., Logan
Brown, C. David, Cook
Brown, David, Kankakee
Brown, Edgar O., Cook
Brown, Francis, Douglas
Brown, Francis J., Macon
Brown, Gordon, Cook
Brown, Ira, Cook
Brown, Jack, Macon
Brown, King D., Cook
Brown, Mercer T., Lake
Brown, Meyer, Cook
Brown, R., Cook
Brown, S., Rock Island
Brown, Seymour, Cook
Brown, William J., Cook
Brown, W. W., Madison
Browne, Freeman, Cook
Brownstein, Stanley, Cook
Brubaker, Donald L., Montgomery
Bruno, Nicholas J., Cook
Brunner, Matthew, Cook
Brust, Edmund G., Cook
Bryan, Fred M., McLean
Buchanan, Donald L., Cook
Buchholz, Alexander M., Cook
Buckley, Joseph H., Cook
Buckley, Mortimer, Will
Buckner, R. A., Iroquois
Buczynski, C. C., Cook
Buehrig, Robert C., Tazewell
Bufkin, Lindley L., LaSalle
Bulfer, Andrew F., Cook
Bullock, N. C., Winnebago
Bullock, W. K., Cook
Bullock, Weldon K., Edwards
Bunata, Emil L., Cook
Bunchmen, L. P., DeWitt
Burack, Samuel, Kankakee
Burckart, Glenn A., Cook
Burgess, J. P., Rock Island
Burianek, John F., Cook
Burke, A. N., Lake
Burke, Edmund James, Cook
Burke, Jerome J., Cook
Burke, John Vincent, Cook
Burket, Walter C., Cook
Burkhart, George, Franklin
Burley, R. D., Cass
Burns, Edward M., Stephenson
Burns, G. T., Winnebago
Burroughs, Oscar J., Cook
Burt, Elliott P., Peoria
Burten, Saul, McHenry
Burton, S. D., Cook
Busch, Robert C., Cook
Bushnell, Lowell F., Lake
Butkus, Walter, Cook
Butner, Wendell B., Cook
Butt, Arthur J. Jr., Cook

Buttemiller, George, Lake
Byfield, George V., Cook

Cada, Edward G., Cook
Cahan, Aaron S., Cook
Cain, Cornelius R., Cook
Calams, James A., Cook
Calasio, R. T., Will
Cameron, Don S., Cook
Cameron, Wayne F., Cook
Cameron, William G., Cook
Cammerer, H. R., Cook
Camp, Edward H., Cook
Campbell, E. D. Clay
Campbell, E. W., Cook
Campbell, James B., Cook
Campbell, Paul A., Cook
Campbell, Rex S., Sangamon
Campbell, W. W., Cook
Canfield, Bruce, Winnebago
Canfield, Burt, Winnebago
Cannon, Edward E., Cook
Cannon, Vern E. Jr., Macon
Cant, John F., Cook
Caporale, Frank S., Cook
Capos, N. J., Cook
Capps, Richard B., Cook
Carey, C. K., Schuyler
Carlin, George W., Will
Carlo, Joseph F., Cook
Carlson, E. E., Cook
Carman, Henry F., Cook
Carney, Paul W., DeKalb
Carney, T. B., Henry
Carofiglio, L. E., Cook
Carpenter, M. G., Kane
Carroll, P. J., St. Clair
Carstens, Herman P., Cook
Carter, C. L., LaSalle
Carter, Kenneth L., Coles
Casberg, Melvin A., Cook
Cascino, J. P., Cook
Case, John B., Cook
Casey, Emmet F., Cook
Cassel, Melvin A., Madison
Cassidy, Harold B., Cook
Castaldo, E. F., Cook
Castro, Cosimo, Cook
Caul, Charles J., Cook
Cavins, Elmer W., Cook
Ceaser, Leonard S., Cook
Cecala, Philip J., Wennebago
Cella, Louis E., Cook
Cenedella, Francis J., Rock Island
Cesare, Anthony G., Cook
Chabner, Louis, Shelby
Chambers, William F., Cook
Chandler, James B., Livingston
Chapman, Henry I., Cook
Chardkoff, M. Austin, Cook
Chechile, D. T., Cook
Chelnek, Irving, Perry
Cherner, A. M., Cook
Cherney, Louis E., Cook
Chesnut, N. H., Sangamon
Chevatal, Herbert F., Cook
Childs, Barton, DuPage
Childs, T. B., Cook
Chinn, Herman, Cook
Chione, A. G., McLean
Chobot, George R., Cook
Choisser, John Elder, Saline
Chor, Herman, Cook
Chornyak, John, Cook
Choy, James K. L., Cook
Christensen, F. A., Peoria
Christenson, A. W., Winnebago
Christie, Geo. C., Cook
Christie, J. B., Champaign
Christman, Edmund E., Cook
Christoph, Robert F., Cook
Christy, Harold W., Cook
Chrzan, Thaddeus J., Cook
Chung, Joseph T., Cook
Chwatal, Herbert F., Cook
Ciavirella, J. A., Cook
Cilella, S. G., Cook
Cirrincione, F. A., Cook
Citron, Robert R., Peoria
Ciulini, F., Cook
Clancy, Edward J., Cook
Clark, Carl E., DeKalb
Clark, James W., Cook
Clark, John S. Jr., Stephenson
Clarke, Roger G., Richland
Clarke, T. H., Cook
Clotfelter, D. W., Montgomery
Claycomb, Arnold H., Woodford
Clayton, F. K., Fulton
Cochems, Kenneth D., Cook
Cochran, T. H., Cook
Cocuzzi, Frank A., Cook
Cody, George L., Williamson
Coen, Hardin E., Cook
Coggeshall, Chester, Cook
Cohan, Albert, Cook
Cohen, A. E., Peoria
Cohen, Adrain, Cook
Cohen, Benjamin, Cook
Cohen, Bernard L., Cook
Cohen, Bernard, Cook
Cohen, Carl, Cook
Cohen, Frank, McLean
Cohen, George L., Tazewell
Cohen, Hyman, Cook
Cohen, Jacob, Madison
Cohen, Melvin R., Cook
Cohen, Morris D., Randolph
Cohen, Robert A., Cook
Cohen, Theo. M., Cook
Cohen, William, Cook
Cohenour, Robert E., Will
Cohlan, Wilbur R., Cook
Cohler, Bernard E., Cook
Cohn, Arnold M., Christian
Cohn, Clarence, Cook
Cohn, Isadore H., Cook
Cohn, Robert D., Cook
Cohrs, Clarence C., Cook
Cole, Thomas J., Cook
Coleman, C. C., Cook
Collings, M. M., Fayette
Collins, Harold J., Hancock
Collins, John J., Cook
Collins, Nathan P., Kane
Collins, R. Bruce, Rock Island
Collins, Thomas J., Cook
Comer, Fay S., Alexander
Comess, Oscar, Cook
Compton, M. A., Peoria
Comroe, Leon B., Cook
Concannon, L. P., Cook
Condon, John B., Cook
Coniglio, Bernard L., Cook
Conklin, C. A., McLean
Conklin, James O., Edgar
Conley, Arthur H., Cook
Conley, John A., McHenry
Conley, Thomas Jr., Cook
Conley, R. H., Cook
Conley, Thomas J., Cook
Conlin, Edward J., Cook
Conner, James A., Cook
Conti, James G., Cook
Conway, John F., Knox
Conway, Joseph, Cook
Cook, George A., Rock Island
Cook, Mario V., Cook
Cook, Richard S., Cook
Cooley, Wm. Jr., Peoria
Cooper, George J., Cook
Cooper, Leo K., Cook
Cooper, William H., Champaign
Cooperman, Myer, Adams
Cooperman, Norman R., Cook
Copeland, W. J., McHenry
Corbin, J. J., Madison
Corboy, Philip M., Cook
Corbus, Bud C. Jr., Cook
Cordonnier, J. J., Washington
Cortesi, L. R., Cook
Costigan, C. S., Rock Island
Costin, Max, Cook
Cottam, Alma, Cumberland
Coulen, Edward J., Cook
Countryman, H. D., Winnebago
Cousens, Marshall A., Cook
Covode, W. M., Vermilion
Cowen, Jack, Cook
Cox, E. H., Logan
Cox, Fred G., Cook
Coyle, Joseph T., Cook
Coyne, Albert D., Cook
Crabtree, Joseph P., DuPage

Crandle, Ellis R., Iroquois
Crane, Cyril V., Cook
Crawford, Paul M., Cook
Cress, Henry N., Cook
Crismon, Lester C., Cook
Crohn, Nathan N., Cook
Cronin, John J. Jr., Cook
Cross, James H., Cook
Cross, R. R. Jr., Hamilton
Crost, Edwin A., Cook
Crotty, John P., St. Clair
Crout, G. T., Livingston
Crowder, Earl R., Cook
Crowley, Edward X., Cook
Culhane, T. Harry, Winnebago
Culmer, Charles U., Cook
Cumming, Thomas S., Kane
Cummins, George M. Jr., St. Clair
Cunningham, Glenn D., Rock Island
Cunningham, J. J., Cook
Curtis, Geo. C., Cook
Curtis, J. S., Vermilion
Curtis, William W., Cook
Cutts, Robert I., Cook
Czaja, Zenon G., Cook
Czerwinski, Anthony, Sangamon
Czwalinski, Peter, Cook

Dado, Albert P., Cook
Dahl, John J., Cook
Dahlberg, A. Z. Jr., Cook
Daiell, Saul Sheldon, Cook
Dailey, Paul A., Greene
Dalitsch, Walter Wm., Cook
Dallenbach, John C., Champaign
Daly, Philip A., Cook
Danelius, Gerhard, Cook
Danishek, Emil S., Cook
Darnall, William R., Cook
Daro, August F., Cook
Dashiel, Grayson F., Cook
Daskal, Herzl M., Cook
Davenport, Harold A., Cook
David, Charles B., Cook
Davies, R. E., Bureau
Davis, Alexander H., Cook
Davis, E. S., Boone
Davis, James W., Franklin
Davis, John L., Adams
Davis, Landis Y., Pike
Davis, Loyal, Cook
Davis, Robert C., Cook
Davis, Thornton A., Cook
Davis, W. J. N. Jr., Cook
Dawson, D. T., Vermilion
Dawson, Percival G., Boone
Day, Howard, Lake
Day, Lawrence C., Lake
Day, L. E., Cook
Day, Robert F., Cook
Dean, R. K., Peoria
Dearborn, R. F., Ogle
Decker, Virgil O., Massac
DeCosta, Edwin J., Cook
DeFeo, Herman F., Cook
DeFrancois, Walter, Cook
DeFrancois, Walter, Cook
Dehnert, Ernest F., Cook
DeLeon, Fernando, Cook
Delicate, William E., Madison
DeLozier, Leonard C., Cook
Demarsh, Qunicy B., Cook
Denenholz, Edward, Cook
Dent, Roy F., Cook
Denyes, O. L., Kankakee
Denyse, Walter J., Cook
DePeyster, Frederic, Cook
Deplewski, Leo Mark, Cook
DePinto, Dominic A., Cook
Des Rochers, Jean B., Vermilion
DeSilva, E. B., Rock Island
Dessen, Samuel, Cook
DeTarnowsky, George O., Cook
DeTrana, Frank A., Cook
Dettman, E. F., Boone
Deuterman, Joel L., Kane
Deutsch, Hans, Cook
Deutsch, Harry L., Cook
Deutsch, J. B., Cook
Devitt, Robert E., Cook
DeVries, Jerry, LaSalle
Dew, Walter A., St. Clair
DeWeerd, James H., Cook
Dewhirst, E. M., Vermilion
Dexheimer, H. P., St. Clair
Diamond, Jack L., Cook
Diamond, Leon S., Ford
Diamondstone, Albert, Cook
Dick, Donald, Kane
Dickerman, H. S. Jr., Sangamon
Dickey, M. M., McHenry
Dietrich, Edwin F., Vermilion
Diffenbaugh, Willis G., Cook
Diffenderfer, Ralph, Cook
Digate, Jacob C., Cook
Diggs, Arthur E., Cook
Dillman, H. B., Clay
Dillon, Walter F., Cook
Dimiceli, Salvatore A., Cook
Ditkowski, Sol, McLean
Dixon, Charles H., Winnebago
Dixon, Harold, Winnebago
Doan, Howard W., LaSalle
Dobin, Louis, Cook
Dobin, Norman B., Cook
Doering, Peter J., Henry
Doescher, Paul F., Cook
Doherty, Chester C., Cook
Doktorsky, Abraham I., Cook
Dolan, P. T., Pike
Dollear, Henry A., Morgan
Dolph, I. E., Mason
Dominsky, Anthony V., Cook
Domke, Delmar E., Lake
Donahey, Victor V., DeKalb
Donlon, Francis P., Cook
Donlon, John J., Cook
Donovan, R. F., Iroquois
Dooley, Samuel, McLean
Doolittle, John W., Cook
Doretti, Peter J., Cook
Dorsey, Dennis B., Cook
Dorton, Howard E., Cook
Doud, Ernest A., Cook
Doud, R. W., McLean
Douglas, Frederick W., Calhoun
Douglas, W. T., Montgomery
Douglass, Bruce Eccles, Cook
Douglass, Thomas C., Cook
Dowell, Raymond Frank, Kane
Dowiat, Stanley, Cook
Doyle, Francis E., Cook
Doyle, Frank E., Cook
Draa, Cecil C., Cook
Drabanski, Joseph S., Cook
Draznin, Solomon Z.
Drazo, E. L.
Drenckhahn, C. H., Champaign
Drennan, Clyde, Ogle
Drennan, George Leland, Morgan
Dresner, Milton H., Cook
Drischel, Frank G., Grundy
Driscoll, Robert E., Cook
Droege, E. H., Madison
Droegemueller, Edmund Henry, DuPage
Droegemueller, William H., Cook
Drucker, Arnold P., Cook
Dubiel, Charles R., Cook
Dudley, Erwin F., Macon
Duerme, Francisco, M., Cook
Duggan, Daniel J., Cook
Duguid, Robert H., Jefferson
Dulin, Theodore J., Kankakee
Dunn, Edward H., Kane
Dunn, Marion F., Lake
Dunn, Max M., Cook
Durburg, John R., Cook
Durr, S. P., Rock Island
Dvonch, William J., Cook
Dwan, Francis M., Cook
Dwyer, John Cornelius, Cook
Dworkin, Harry, Greene

Earle, Walter C., Champaign
Easton, James, Cook
Eberhart, Claude M., Cook
Edelson, Edmond K., Henderson
Edelstein, Rudolph, Cook
Edinburg, Jack J., Cook
Edwards, G. H., Perry
Edelman, Maurice I., Cook
Effron, Morton, DeKalb
Egan, Edward M., Cook

Egan, William B., Cook
Egel, Paul M., Cook
Eggers, John F., DeKalb
Ehlert, C. D., Madison
Ehrhardt, O. E., Sangamon
Ehrlich, Joseph C., Cook
Ehrlich, Leo, Cook
Ehrlich, Louis, Cook
Ehrlich, Max C., Cook
Ehrlich, Norman J., Cook
Eilert, William G., Kane
Einhorn, Harold, Cook
Eisele, Owen J., St. Clair
Eisendorf, Lester H., Fayette
Eisenstaedt, Werner F., Cook
Eisenstein, Edward, Will
Eisenstein, Harold, Cook
Eisenstein, Milton W., Cook
Eiser, Joseph, Knox
Eisin, Walter M., Cook
Elden, Harold, Cook
Elek, Stephen R., Greene
Elledge, Lloyd C., Vermillion
Elliott, Ralph A., Cook
Ellis, J. G., Vermilion
Ellsworth, Preston B., Champaign
Ellwood, Walter W., Cook
Emanuele, Nicola V., Cook
Emons, Clifford W., Madison
Endacott, John, Kankakee
Endres, Fred C., Peoria
Engle, Harold M., Cook
English, Louis C., Cook
Engelbach, Friedrich, Morgan
Ennis, Arthur L., Macon
Ennis, E. Harold, Sangamon
Entin, Oscar L., Cook
Entin, Samson D., Cook
Epstein, Casper M., Cook
Epstein, David, Cook
Epstein, Jacob M., Cook
Erenburg, Leon M., Cook
Erickson, Russell B., Coles
Erickson, William Gardner, Vermilion
Erikson, H. B., Cook
Erico, Silvo, Rock Island
Ersfeld, John G., Cook
Eschelbacher, Leo, Jefferson-Hamilton
Espenscheid, J. S., Vermilion
Espey, Hugh S., Greene
Esposito, A. R., Jackson
Esposito, Peter T., Cook
Ettleson, Abraham, Cook
Evans, Ed. G., Kane
Evans, H. A., Massac
Evans, Morton I., Cook
Eveloff, A. R., Sangamon
Fabian, Sydney, Cook
Faden, Gerson, Shelby
Fahey, Richard P., Cook
Fahlstrom, Stanley C., Cook
Fahnestock, E. A., Lawrence
Fahrner, George V., Will
Fahrner, Richard H., Will
Faigle, E. T., Cook
Faingold, Joseph E., Cook
Fairbairn, James P., Cook
Fairshter, A. E., Massac
Faletti, Anthony J., Cook
Falk, Alfred B., Cook
Falk, Nathan, Cook
Falk, Victor S., Champaign
Faller, Adolph Jr., Cook
Falstein, Eugene I., Cook
Fantus, Robert A., Cook
Fara, Frank J. Jr., Cook
Fardy, Francis P., Cook
Farinacci, Maurice G., Cook
Farmer, David K., Champaign
Farmer, Donald, Cook
Farr, Milan W., Cook
Farington, J. D., Cook
Farrior, Joseph B., Rock Island
Fash, James, Fulton
Faulkner, Harry L., Cook
Favill, John, Cook
Favus, Irving, Cook
Feher, George, Cook
Fehlmann, Frederich H., Henry
Fein, Harry S., Cook
Feinberg, Louis, Cook
Feinberg, Milton, Cook
Feinerman, Albert H., Hancock
Feinhandler, Harold S., Cook
Feinstein, Walter, Cook
Feldma, Harold, Tazewell
Feldman, Abraham W., Cook
Feldman, Edward I., Kankakee
Feldman, Emanuel, Cook
Feldman, Morris, Cook
Feldman, Paul E., Cook
Feldman, Ray, Cook
Felicelli, Nello M., Cook
Fell, Egbert H., Cook
Felsher, Zachary, Cook
Felts, W. T., Jackson
Ferguson, James H., Cook
Ferguson, Ralph L., Cook
Ferri, Nicholas A., Cook
Ferris, W. T., Whiteside
Fey, David, Peoria
Field, Homer B., Cook
Fields, Charles, Cook
Fields, Jack C., Cook
Fildes, Charles E., Richland
Finder, Jerome G., Cook
Fink, Frederick, Sangamon
Finkleman, I., Cook
Finkelstein, Jack, Cook
Finkle, Albert M., Cook
Finkle, J. R., Will
Fiore, Frank F., Cook
Fioretti, Carlo A., Cook
Fiorito, Louis, Cook
Fireman, Joseph, Cook
Firfir, Bourke, Cook
Firoved, James W., Warren
Fischer, G. G., Perry
Fisher, David, Cook
Fisher, Seymour, Sangamon
Fishkin, Ben G., Cook
Fishkin, Martin, Cook
Fishman, Jacob S., Cook
Fishman, Jerome, Cook
Fisk, Kenneth L., DuPage
Fitch, Franklin R., DuPage
Fitz, Frederick W., Cook
Fitzgerald, Maurice D., Cook
FitzGibbons, James P., Cook
Fitzmaurice, Harry A., Cook
Flack, Clarence E.
Flannery, Marvin G., Cook
Fleischli, C. A., Sangamon
Fleischli, George, Sangamon
Fleisser, Werner, Vermilion
Flentje, Edgar H., Cook
Flickenger, George, Tazewell
Floreth, N. F., Montgomery
Fogarty, Charles J., Franklin
Fogelhut, Sam, Cook
Foley, C. J., Lake
Foley, John D., Lake
Foley, Joseph, Lake
Fond, Israel, Cook
Foolke, L. E., Tazewell
Ford, James Walter, Cook
Ford, William K., Winnebago
Forrest, T. F., McHenry
Fort, Richard G., Cook
Foster, Ray Tyler, Grundy
Fouser, Ralph H., Cook
Fowler, J. V., Jr., Cook
Fox, Frederick G., Cook
Fox, F. H., Douglas
Fox, M. J., Cook
Fox, Robert G., Cook
Fox, Theodore A., Cook
Fox, William W., Logan
Fraerman, Samuel H., Cook
France, John, Shelby
Franco, Joseph R., Cook
Franco, Robert, Crawford
Frank, Irving, Greene
Frank, Louis S., Cook
Frank, William W., DuPage
Frankel, Samuel S., Cook
Frankel, Usher Leonard, Cook
Franklin, Charles E., Cook

Frazier, E. S., Effingham
Fredrikson, Lynn C., Cook
Freed, Solomon C., Cook
Freedman, Adio A., Cook
Freedman, Barnar S., Cook
Freedman, M. J., Peoria
Freedman, Robert J., Cook
Freeland, John E., Lake
Freeman, Bromley S., Cook
Freeman, Gustave, Cook
Freeman, W. R., Champaign
Freese, Homer Benjamin, Cook
Freiband, Benjamin, Cook
Freiheit, H. J., Madison
Freilich, Joseph K., Cook
Fried, Samuel L., Cook
Friedberg, Stanton A., Cook
Friedlander, Ralph, Cook
Friedman, David, Madison
Friedman, Elmer A., Cook
Friedman, Harold S., Cook
Friedman, Harry S., Ford
Friedman, Isadore E., Cook
Friedman, Jack, Cook
Friedman, Morris Saul, Cook
Friedman, Townsend Baer, Cook
Fringer, R. C., Winnebago
Frisch, Isaac J., Cook
Froelich, Bernard J., Cook
Frow, James R., Cook
Fruin, L. T., McLean
Frye, G. M., Peoria
Fuqua, Samuel Agee, Cook
Furby, Seeley B., Ford

Gaal, George, Cook
Gaberman, Peter, Cook
Gallagher, Edward J., Cook
Galloway, Charles E., Cook
Gamet, Joseph H., Rock Island
Gannon, Paul, Livingston
Garber, Jesse G., Christian
Gardner, C. L., Kane
Gardner, Leon P., Kane
Garrett, Roy P., Cook
Garrick, Samuel, Cook
Garthe, J. H., Winnebago
Garwacki, John Henry, Cook
Garthe, John J., Vermilion
Garthe, Joseph H., Winnebago
Garwacki, John H., Cook
Gast, Carl L., Cook
Gautsch, Joseph A., Macon
Gaynes, Harvey E., Cook
Gaynon, Irwin E., Cook
Gebuhr, Carl A., DeWitt
Geittmann, William F., Cook
Gelfand, Leo, Cook
Gengelbach, Robert D., Jasper
Gensch, R. A., Sangamon
Geraci, Angelo S., Cook
Gerber, Harold X., Cook
German, K. L., Kane
Gernon, William, Kankakee
Gershenson, D. A., Wayne
Gertz, George J. D., Cook
Gettelman, Eugene, Cook
Geyer, Norman Byron
Gezon, Horace M., Cook
Giacobe, Anthony J., Cook
Gianturco, Cesare, Champaign
Giardina, Jacob J., Cook
Gibson, Thomas S., Greene
Giffin, Lewis A., Madison
Giganti, James J., Cook
Gilbert, Charles S., Cook
Gilchrist, Richard K., Cook
Giles, Roscoe C., Cook
Gilfillan, Homer J., Adams
Gill, William T., Cook
Gillesby, W. J., Effingham
Gillespie, James B., Champaign
Gillig, F. W., Peoria
Gilman, George, LaSalle
Gilmore, John H., Cook
Giltner, Otis B., Bureau
Ginnan, Edward J., Cook
Ginsberg, Julius E., Cook
Ginsberg, Robert S., Cook
Gish, Rutledge E., Saline
Gettelson, Lloyd A., Cook
Glashagel, E. E., Kane
Glasser, Julius M., Cook
Gleason, M., LaSalle
Glueckauf, Lewis G., Cook
Glynn, James D.
Goff, Marcellus H., Cook
Goforth, Eugene George, Peoria
Gold Morris A., Kendall
Gold, Philip S., Henderson
Goldberg, Aaron L., Cook
Goldberg, Arthur Melvin, Cook
Goldberg, Benjamin, Cook
Goldberg, Fred A., Randolph
Goldenberg, Max
Goldenberg, Morris, Cook
Goldfinger, James M., Cook
Goldman, Allan M., Cook
Goldman, J., Cook
Goldman, Samuel, Cook
Goldner, Meyer Z., Ford
Goldstein, Byron Maurice, Cook
Goldstein, David N., Vermilion
Goldstein, Hyman H., Cook
Goldstein, Isadore I., Cook
Goldstein, Maxwell, Lake
Goldstein, Morris, Cook
Goldstein, Robert M., Cook
Goldstene, James K., Cook
Goldt, Henry B., Cook
Goldyne, Alfred J., Cook
Golinkin, George B., Jr., Cook
Gondek, Frank R., Cook
Gonwa, Walter John, Jr., Edgar
Good, Palmer, Cook
Goode, Delmar, Lake
Goodhart, Jacob A., Cook
Goodman, Clifford S., Cook
Goodman, Daniel H., Knox
Goodman, Eli, Cook
Goodman, Ephraim Frank, Cook
Goodman, Leon J., Cook
Goodpasture, W. C., Winnebago
Goran, Joseph R., Whiteside
Gorday, Abraham J., Cook
Gordon, H. S., Will-Grundy
Gordon, John R., Cook
Gordon, Louis Z., Peoria
Gordon, Orville E., Cook
Gore, Maurice, Cook
Gorecki, Ferdinand, Cook
Goren, Morris L., Cook
Gorfinkel, Leon H., Cook
Gorvett, Edmund A., Cook
Goss, Walter A., Jr., Cook
Gossard, Foster E., Cook
Gossom, Donn Roberts, Cook
Gottlieb, Jacob D., Edgar
Governale, Samuel L., Cook
Gowdy, Franklin K.,
Gowen, G. Howard, Cook
Grabar, Edward A., Cook
Grabau, Gene Henry
Gradman, Ralph, Cook
Graf, Carl N., Cook
Graff, R. J., Logan
Graham, Albert P., Cook
Graham, Charles M., Knox
Graham, J. P., Fulton
Graham, James, Sangamon
Graham, Robert J., McDonough
Graham, Vincent Paul, Cook
Grams, Leslie R., Cook
Grandone, Joseph J., Macoupin
Grant, Harry, Cook
Graupner, Gustav W., Cook
Gray, Earle O., Cook
Gray, John J., Vermilion
Gray, J. W., Kane
Gray, Thomas J., Winnebago
Green, Alan D., Cook
Green, F. C., Peoria
Green, Hyman S., Cook
Green, John W., Lake
Green, Ray C., Henderson
Green, Raymond, Cook
Greenberg, Harold A., Cook
Greenberg, Leo J., Cook
Greene, Bernard L., Kane
Greene, Earle A., Cook
Greene, J. Major, Cook
Greene, Ronald R., Cook
Greenspahn, Gerald M., Cook
Greenspon, Louis I., Cook
Greenwood, L. S., Winnebago
Greenwood, Robert C., Cook

Gregory, Gus D., Cook
Griep, Ernst A., Adams
Grier, James P., Cook
Griffith, Paul R., Cook
Grimm, Harold A., Cook
Grinker, Roy R., Cook
Grippe, William J., Cook
Grissom, Robert L., Macon
Grodins, Fred S., Cook
Gross, Frank F., Cook
Grossman, Abraham, Cook
Grossman, Edward S., Cook
Grossman, Erwin E., Jasper
Grossman, Harry J., Cook
Grossman, Jack W., Adams
Grossman, William, Kankakee
Groth, Norton R., Cook
Grout, John L., Cook
Grove, William E., Jasper
Grubman, Marvin, Cook
Gubler, J. A., Cook
Guerin, John W., Cook
Guerra, John D., Cook
Guerrieri, John A., Cook
Gumbiner, Stanley H., Knox
Gunn, Samuel A., Cook
Gunther, A., Cook
Guokas, Peter J., Cook
Gurvey, Julius A., Cook
Gustafson, Carl J., Crawford
Gustafson, J. G., Rock Island
Gustafson, Wesley A., Cook
Guy, Chester C., Cook

Haedicke, William David, Cook
Haerem, Alf T., Cook
Haffly, Gilbert N., Cook
Haftkowski, Dominic, Cook
Hagerty, Cornelius S., Cook
Hair, Benjamin M., Cook
Halevy, Arthur A., Cook
Hall, B. I., Perry
Hall, Lewis L., Cook
Hall, James W., Jr., Cook
Hall, Marshall W., Jefferson
Hall, P. V., Bureau
Hall, Wilford F., Jefferson
Hamilton, Eugene A., Cook
Hamlin, Courtney, Winnebago
Halperin, Bernard A., Cook
Hamilton, George R., Logan
Hamilton, Samuel L., Cook
Hamm, Lee N., Logan
Hammatt, Harold W., Cook
Hammer, John M., Jackson
Hammond, K. H., Vermilion
Hammond, Rex D., Cook
Hanauer, Samuel M.
Hancur, Gerald A., Cook
Hanford, Roy E., Cook
Hangos, George W., Cook
Hanson, John O., Cook
Hanson, Martin F., Mason
Hantover, M. J., McLean
Haraburda, Stanley V., Cook
Hardre, Rene, Cook
Hardt, Harry G., Jr., Cook
Hardt, Leo L., Cook
Hardy, L. Martin, Cook
Hare, Louis A., Cook
Harmeyer, Mark E., Hardin
Harmon, T. F., Sangamon
Harned, John W., Cook
Harper, Paul V., Jr., Cook
Harrell, J. G., White
Harrington, G. L., Jr.
Harris, Garford, Cook
Harris, Irving D., Cook
Harrison, C. Jack, Cook
Harrison, Rollie M., Cook
Harrison, Stearley P., Cook
Hart, R. D. Peoria
Harter, Eli B., Champaign
Hartford, William S., Champaign
Hartlett, Elvin M., Cook
Hartley, G. T., Henry
Hartman, Charles F., Cook
Hartman, Clifford D., Lee
Hartman, Henry A., Kankakee
Hartman, Melville D., Cook
Haseltine, Charles P.
Hasewinkel, C. W., Clark
Haskins, Jack T., St. Clair
Hasterlik, Robert J.
Hastings, Donald W., Lake
Hauser, Maurice J., St. Clair
Hausman, Charles M., Cook
Haver, Harry T., Cook
Havranek, J. C., Cook
Hawkins, H. W., Peoria
Hawkins, John R., Cook
Hawkins, K. C., Cook
Hawthorne, R. O., Kankakee
Haydon, George C., Greene
Hayes, John M., Macon
Haynes, Walter G., Cook
Headland, Paul B., Cook
Heaton, J. R., Vermilion
Hebenstreit, K. J., Cook
Hecht, Rudolph, Cook
Hedge, Harry M., Cook
Hedges, Frank H. Jr., Will
Heidgen, Martin F., DuPage
Heimovitz, Jack S., Cook
Henrich, Jerome F., Cook
Heitzman, Paul O., McHenry
Helfgott, Jay L., Adams
Heller, Richard E., Cook
Hellman, Jack M., Cook
Helm, J. W., McLean
Helm, John E., Franklin
Helm, Standiford, Cook
Helming, Oscar C., Henry
Hemming, Phillip C., Kane
Hemphill, Robert B., Cook
Henner, Robert, Cook
Herdener, Russell L., Rock Island
Herrmann, Carl B., Cook
Herrmann, R. E., Henry
Herron, Earl, Cook
Hershman, Seymour, Cook
Herzog, Max, Cook
Herzon, Herbert, Cook
Heskett, Byford F., Cook
Hess, Edmond R., Cook
Heyer, Howard E., Cook
Hiatt, Kenneth N., DuPage
Hick, Ford K., Cook
Hickman, Warren R., Cass
High, Ralph L., Cook
Hilker, Albert W., Cook
Hilkevitch, Aaron A., Cook
Hill, G. R., Wayne
Hill, Harold H., Cook
Hill, Herman H., Cook
Hillenbrand, Charles, Cook
Hillman, Samuel A., Adams
Himmel, Jacob G., Cook
Hinn, George J., Lake
Hipskind, Myron M., Cook
Hirsch, Donald A., Cook
Hirschtick, Allan B., Cook
Hirz, Max
Hobbs, Thomas G., Cook
Hockberg, Paul P., Warren
Hockman, Donald E., DuPage
Hodges, Clarence, Cook
Hodges, Harry D., Cook
Hoebel, Fred G., Cook
Hoechstetter, Stanton, Livingston
Hoeffding, W. H., Edgar
Hoeppner, Walter F., Cook
Hoernschemeyer, J. L., Madison
Hoesley, John B., Cook
Hoffman, John M., Cook
Hoffman, Samuel J., Cook
Hoffman, Sidney J.
Hoffstadt, John P., Cook
Hofstra, R., Cook
Hogan, Richard, Cook
Hohf, Arnold H., Clay
Hohman, Kurt E., Cook
Holden, Alwin J., Cook
Holder, Norton W., Cook
Holladay, W. T., Lee
Hollister, Bruce A., DuPage
Holloman, L. T., Cook
Holm, Alf J., Cook
Holmes, John F., Cook
Holnitsky, Samuel C., Cook
Hong, Charles J., Rock Island
Hood, J. Rogers, Cook
Hook, Walter E., Cook
Hootnick, Jacques L., Cook
Hoover, Allen H., Cook

Hoover, R. S., Adams
Hora, James L., Cook
Horodko, Edward J., Cook
Horowitz, John Jacob, Kankakee
Horovitz, Herman J., Cook
Horwitz, Bernard, Cook
Horwitz, H. L., Cook
Horwitz, William H., Franklin
Hospers, Cornelius A., Cook
Houghton, Earl J., Peoria
Howard, Wayne C., Cook
Howe, Donnell C. Jr., Cook
Howell, Joseph D., Clark
Howser, John W., Cook
Hoyt, Lucias, Rock Island
Hrejsa, Allen C., Cook
Huber, Paul R., Cook
Hubble, William F., Macon
Hudson, G. R., Cook
Hudson, Theodore R., Cook
Huerta, S. J., McLean
Huffman, Carroll W., Cook
Hughes, Charles W., Cook
Hughes, Edgar O., Champaign
Hughes, James R., Cook
Hughes, M. J., Jackson
Hughton, Earl J., Peoria
Hulbert, Sidney Z., Lawrence
Hultgen, Francis J., Cook
Hume, Albert T., Piatt
Huml, A. P., Peoria
Hummel, Russel M., Cook
Humphrey, Kenneth C., Madison
Hunt, Robert E., Sangamon
Hunting, Ralph D., Cook
Hurley, Douglas C., Kane
Hurwich, Jerome J., Cook
Hurwitz, Ben L., Cook
Hurwitz, Charles L., Cook
Hurwitz, Paul, Cook
Hutchens, L. L., Clay
Hutchison, William A., Cook
Hutter, Charles C., Cook
Hybke, Z. S., LaSalle
Hyman, Abe A., Cook

Iknayan, H. A., Coles-Cumberland
Iler, Rex L., Kankakee
Illyes, Roscoe O., Lawrence
Imbiorski, S. J., Cook
Ingrish, George A., Cook
Ioriatti, John B., Cook
Ireland, H., Peoria
Irwin, Francis Glenn, Macom
Isaacs, Harry J., Cook
Isenhart, Lawrence F., Carroll
Isoe, Isadore M., Cook
Ivan, Michael M., Cook
Ives, Warren, Winnebago

Jabczynski, Hilbert A., Cook
Jack, Nelson B., Macon
Jackman, Abraham I., Kane
Jackson, E. L., Cook
Jackson, Sheldon A., Richland
Jacob, Joseph M., Cook
Jacobs, Frank, Fulton
Jacobs, Henry, Bureau
Jacobs, Howard M., Cook
Jacobs, Maurice, Clay
Jacobson, Herman A., Cook
Jacobson, J. R., Kane
Jacobson, Max Martin, Cook
Jacobson, Moses A., Cook
Jacobson, Oliver I., Cook
Jacobus, Marcus R., Cook
Jacobus, Ryland M., McHenry
Jaffe, Henry L., Cook
Jakopick, Wm., Cook
James, David E., Boone
Jamison, Clarence E., Cook
Jana, Edward C., Cook
Jansey, Felix, Cook
Janson, Herbert, Cook
Janus, Arthur I., Cook
Jasinski, Casimir, Cook
Jasinski, Thaddeus J., Cook
Javois, Alexander J., Bond
Jedlicka, Frank L., Cook
Jefferson, Ronald N., Cook
Jeffries, Milo Easton, Cook
Jenkins, Albert H., Cook
Jenkins, D. M., McLean
Jenkins, Hilerd W., Cook
Jenkinson, David L., Cook
Jennings, Lawrence S., Cook
Jensen, Russell, Warren
Jesser, Joseph H., Cook
Joffe, Herman, Cook
Johannes, Henry C., Cook
Johns, C. F., Morgan
Johns, C. L., Cass
Johnson, Bruce Willard, Cook
Johnson, Chester T., Cook
Johnson, Howard G., Clark
Johnson, Ira W., Richland
Johnson, J. P., Rock Island
Johnson, Lester S., Cook
Johnson, Lowell R., Vermilion
Johnson, Paul, Winnebago
Johnson, Reinhold E., Cook
Johnson, Richard P., Cook
Johnson, Robert C., Fayette
Johnston, C. W., Morgan
Johnston, J. P., Rock Island
Johnston, Kenneth P., Kane
Johnstone, J. H., Saline
Jones, Alex, Sangamon
Jones, Alfred E., Cook
Jones, Morris H., Cook
Jones, Robert M., Cook
Jones, Robert R., Rock Island
Jones, Weston W., Lake
Jones, William N., Knox
Jordan, R. F. K., Tazewell
Joss, Edward, Livingston
Josselyn, Livingston, Lake
Journat, John L., Winnebago
Judah, L. N., Champaign
Judd, Maurice H., Hardin
Julian, Ormand C., Cook
Jurek, Ladislaus J., Cook
Jurgens, Johnnes J., Cook

Kadow, Archie M., Cook
Kaell, Harry, Cook
Kahn, Alfred Jerome, Cook
Kahn, David, Cook
Kahn, Harry S., Cook
Kahn, Jack L., Cook
Kahn, Jacob V., Cook
Kahn, Otto L., Cook
Kahn, Sidney C., Cook
Kaim, S. C., Rock Island
Kaiser, Jerome, Cook
Kaiz, S. P., Lake
Kaleta, Edward, Cook
Kalisz, Walter F., Cook
Kallal, Edward W., Cook
Kallen, Irwin A., Cook
Kaminski, Paul J., Cook
Kammerling, Erwin, Cook
Kane, David S., Cook
Kane, Jerry J. Jr.
Kannapel, Lowell E., Peoria
Kanter, Aaron E., Cook
Kanter, Lester, Cook
Kanter, Myron F., Cook
Kanthak, Frank F., Cook
Kaplan, Benjamin, Cook
Kaplan, George, Winnebago
Kaplan, Joseph, Winnebago
Kaplan, Julius A., Vermilion
Kaplan, Leo A., Cook
Kaplan, Louis G., Cook
Kaplan, Morris A., Cook
Kaplan, Max, Cook
Kaplan, Sidney J., Cook
Kapustiak, Wendell, Cook
Kapustka, Edward J., Cook
Karabin, Andrew L., Cook
Karabin, John E., Cook
Karberg, Richard J., Clay
Karpass, Victor H., Cook
Karg, Frank, Fulton
Karolus, H. E., JoDaviess
Karpe, Carl H., Cook
Karas, S. J., Cook
Kasabach, Harry Y., Rock Island
Kasick, Otto, Cook
Kaske, G. J., Boone
Kasmer, Edward T., Cook
Katz, Charles, Cook
Katz, Seymour R., Cook

Kaufman, Jerome D., Cook
Kaufmon, Soul D., Cook
Kautz, Harold D., Cook
Kavka, Jerome, Cook
Kavka, Selig J., Cook
Kayne, Jerry, Cook
Keane, John W., Cook
Kearney, C. T., McLean
Kearney, James F., Cook
Kearns, Jerry J., Cook
Kearns, John Edward, Cook
Kearns, Owen A., Winnebago
Keating, Donald J., Kankakee
Keefer, John, Cook
Keigwin, Charles G., Cook
Kelikian, Hampar, Cook
Keller, John, LaSalle
Kelley, Frank J., St. Clair
Kelley, R. H., Will-Grundy
Kelley, Robert R., Champaign
Kelly, Arthur L., Cook
Kelly, C. F., Perry
Kelly, Delbert C., Cumberland
Kelly, Sylvester M., Cook
Kelly, Vincent J., Kankakee
Kelso, Thomas W., Jr., Madison
Kendall, Robert L., Menard
Kennedy, Richard L., Cook
Kenny, James Nicholas, Peoria
Kenward, Roy L., Ford
Kernwein, Graham, Cook
Kerr, Charles Roy, McLean
Kersotes, C. A., Sangamon
Kerst, J. Arthur, Sangamon
Kerwin, Raymond W., Cook
Kesert, Benjamin H., Cook
Kesert, Meyer, Cook
Ketay, J. M., Peoria
Ketterer, F. H., Clinton
Kiarsis, Victor, Brown
Kieffer, John P., Cook
Kimball, Ernest R., Cook
Kimbrell, Earl D., Cook
King, E. S., Cook
King, E. P., Cook
King, Everett S., Cook
King, Ray, Peoria
King, Walter W., Peoria
Kinne, A. Smith, DuPage
Kinne, Harry W., DuPage
Kinney, Raphael K., Lake
Kinser, W. C., Peoria
Kinzer, Richard E., Cook
Kionka, Paul F., McLean
Kipnis, Harry, Cook
Kirby, William J., Cook
Kirgis, Harold J., Cook
Kirk, Max L., Jefferson
Kirshbaum, Jack D., Cook
Kissenger, Charles, Union
Kittilsen, Lester H., Cook
Kleiman, Aaron H., Jasper
Kleinman, David, Cook
Klein, Alfred J., Cook
Kleitsch, Wm. P., Cook
Klemmer, Herbert, Vermilion
Kligerman, Sidney, Cook
Kline, Walter L., Jr., Bond
Klinghoffer, Max, Macon
Klocker, Karl James, Cook
Klubeck, Victor J., Brown
Knapp, Howard C., St. Clair
Knapp, John A., Cook
Knaus, William E., St. Clair
Knewitz, Ralph W., St. Clair
Knowles, Donald B., Cook
Kobak, Mathew W., Cook
Kobisk, O. A., Kane
Kobrin, Meyer W., Cook
Koch, J. M., Madison
Kocour, Elmer J., Cook
Koenig, Frank J., McLean
Koenigsberg, N. M., McLean
Kohlstedt, K. D., Sangamon
Kohn, Joseph J., Christian
Koivun, O. W., Rock Island
Kolb, Harold J., Woodford
Kolb, Leonard H., Cook
Koll, Irvin S., Cook
Kolodny, Sydney M., Cook
Koranda, George A., Cook
Koransky, Abraham R., Cook
Koransky, D. S., Cook
Korbin, Meyer W., Cook
Korngold, Herbert W., Cook
Koscinski, Leo J., Cook
Kostrubabla, Joseph G., Cook
Koucky, John D., Cook
Koza, John L., Cook
Kraines, Samuel H., Cook
Kraft, George L., Cook
Krafft, Henry L., Cook
Kram, David, Cook
Kramer, Charles F., Cook
Kramer, Paul, Cook
Kraszewski, Henry W., Alexander
Krause, Charles D., Cook
Krawczynski, A. C., Cook
Kreft, Alfred J., Cook
Kreml, Otto A., Cook
Kristiansen, Clarence, Cook
Krol, Edward J., Cook
Kross, Irvin W., Cook
Kruger, Samuel, Cook
Krumm, John Frederick, Cook
Krupa, J. M., Cook
Kruse, George F., Cook
Krystosek, Joseph W., Cook
Kudolla, Charles R., Cook
Kuhn, Albert A., St. Clair
Kuhns, Ralph H., Cook
Kulvin, Max M., Cook
Kunde, E. C., McHenry
Kunstadter, Ralph H., Cook
Kurtz, James F., Cook
Kvidera, George J., Cook
Kwedar, A. T., Sangamon
Kwinn, Frank C., Cook

Laadt, John Raymond, Cook
Laden, Edward L., Cook
LaFata, Francis Paul, Sangamon
Lambert, Claude N., Cook
Lampert, Elmer G., Cook
Land, Leslie Sturdevant, Cook
Landberg, Harry M., Cook
Lander, Herman B., Cook
Landes, Ralph R., Cook
Landmann, Paul E., Will
Lando, Leon, Cass
Landon, Wilbur R., Logan
Landy, Nathaniel E., Cook
Lane, John T., Cook
Lane, Paul L., Cook
Lang, Herbert, Logan
Langdon, Roy M., Cook
Lange, H. L., St. Clair
Langston, Hiram T., Cook
Larimore, Granville W., Cook
Larkin, Leo Carroll, Cook
Lash, Sidney R., Cook
Lassar, Gilbert N., Sangamon
Latimer, Earl O., Cook
Latta, Philip R., LaSalle
Lattman, Morris, Greene
Lattuada, Henry P., Vermilion
Lauer, David P., Cook
Laufman, Harold, Cook
Lavieri, Frank J., Cook
Law, Otis, Livingston
Law, Stanley G., DuPage
Lawder, H. L., Jersey
Lawler, Frank G., Cook
Lawler, Harold T., Winnebago
Lawrence, Charles H., Cook
Lawson, Robert C., Cook
Lawton, Stanley E., Cook
Layman, J. A., Rock Island
Lazar, A. M., Cook
Lazarski, Karl M., Cook
Leach, John E., LaSalle
Leader, Abel J., Cook
Leahy, Frank D., DuPage
Learner, Aaron, Whiteside
Learner, J., Whiteside
Leavdi, Solomon S., Cook
Leavitt, Samuel S., Cook
Leavitt, Sheldon, Will
Lebensohn, James E., Cook
LeBoy, Ted, Cook
Lederer, Francis L., Cook
Ledoux, Alfred C., Cook
Lee, Robert E., Cook
Leeds, Milton F., Cook

Lees, William M., Cook
Leimbacher, Earl, Will-Grundy
Lemberg, Louis, Cook
Lengyel, Carl E., Kane
Leninger, Alfred T., Vermilion
Lennarson, Vincent, Lake
Lennon, Benj. B., Cook
Lenth, V. T. J., Morgan
Lepak, Alfred J., Cook
Lerner, David G., Cook
Lerner, Harry A., Cook
Lerner, Isadore, Henry
Lerner, Louis S., Cook
Lerner, Philip, Cook
LeRoy, George V., Cook
Lery, Abraham J., Cook
Lesage, R. T., Lee
Lesemann, Frederick J. Jr., Cook
Leshin, Arno, Cook
Leuschner, Armin W., St. Clair
Lev, Maurice. Cook
Levan, Arthur B., Cook
Levenson, Joseph M., Cook
Leventhal, Michael L., Cook
Levey, Calvin I., Cook
Levey, Edward W., DeKalb
Levin, Harry, Cook
Levin, Louis, Cook
Levin, Myron J., Washington
Levin, Noah Bernard, Cook
Levine, H. J., Marion
Levine, Morris H., Williamson
Levine, Milton, Cass
Levinson, Benj., Cook
Levis, Wm. Paul, Sangamon
Levitin, Lawrence A., Cook
Levitt, Robert O., Cook
Levy, Edward W., DeKalb
Levy, Norman A., Cook
Lewe, Irving A., DeKalb
Lewin, Philip, Cook
Lewinnek, Walter, Mason
Lewis, David J., Sangamon
Lewis, Elbert K., Cook
Lewis, Henry M., Cook
Lewis, James W., Cook
Lewis, L. L., Peoria
Lewis, Ralph W., Whiteside
Lewis, Raymond O., Cook
Lewis, Robert Burns, Whiteside
Lewis, Robert M., Cook
Lewis, Samuel K., DuPage
Lewis, William C., Cook
Lewison, Edward F., Bond
Lewy, Robert B., Cook
Leyers, Rudolph P., Cook
Lichtenstein, Manuel, Cook
Lichtenstein, Meyer R., Cook
Lieberstein, Joseph H., Cook
Lieberthal, Frederick, Cook
Liederman, Albert, Whiteside
Lifchultz, Leo B., Cook
Lifschultz, Bernard, Cook
Lindberg, Howard A., Cook
Lindeen, Oliver L., Cook
Lindquist, John L., Cook
Lindsay, Arthur M., Cook
Lindstedt, N. A., Winnebago
Lindstrom, William C., Cook
Link, Gustave S., Cook
Linn, Herman J., Cook
Linnville, LeRoy L., Cook
Lipkin, Sam J., Vermilion
Lippert, Jerome H., Cook
Litter, Julius, Clay
Litterest, L. J., Peoria
Little, Harold, Cook
Livingston, A. Edward, McLean
Llewellyn, John S., Cook
Loar, Ralph R., McLean
Lock, Frank, Cook
Lockhart, Edmund S., Montgomery
Lockwood, Chester C., Cook
Lockwood, W. W., Champaign
Loeb, William J., Cumberland
Loeff, Harold M., Cook
Loeffler, Robert W., Cook
Lofdahl, George A., Will
Logsdon, Robert E., Brown
Logue, James R., Cook
Loiselle, Albert O., Cook
Long, Keith, Fulton
Lombardo, Ignace P., Cook
Longwell, Charles W., Washington
Looby, W. E., Lake
Look, William B., Hamilton
Lopresti, Philip J., Cook
Lord, Arthur E., Kendall
Loring, Milton J., Cook
Loritz, Anthony F., Cook
Lounsbury, Frank, Cook
Love, L. L., Franklin
Lowey, A. H., Peoria
Lowrey, Robert D., Cook
Lowry, Howard A., Peoria
Lowry, Robert H., Cook
Lubin, Jerome J., Cook
Lucia, Nicholas, Will
Ludmerer, Sol, Cook
Lueth, Harold C., Cook
Lund, J. A., Ford
Lundgren, Edward S., Cook
Lundy, Clayton J., Cook
Lusk, Frank B., Cook
Lusk, W. W., Macoupin
Lustgarten, Earl M., Cook
Lutz, Jacob F., Cook
Lyons, Clinton G., Crawford

MacDonald, Hugh, Cook
MacDonald, Ralph F., Cook
Machlan, Harold F., Cook
MacKiewicz, William, Cook
Mackler, Saul A., Cook
Mackoff, Herman, Cook
Mackoff, Saul, Cook
MacLane, Cleveland C., Cook
MacLeod, Sidney James, Cook
MacNamara, Homer P., Sangamon
Madden, Earl E., Cook
Madden, Leo, St. Clair
Madey, Edward V., Cook
Madison, B. B., Sangamon
Magit, Jack R., Cook
Magnelia, A. L., Winnebago
Magnus, Alexander B., Cook
Magree, Montie, Cook
Mahoney, Joseph M., Cook
Mahru, Meier, DeKalb
Maier, John L., Cook
Mailer, Andrew R., Knox
Maizkin, Lloyd L., Cook
Majarakis, James D., Cook
Makart, Carl D., Cook
Malbin, Barney, Cook
Malcolm, Donald C., Cook
Maley, Wm. Forrester, Knox
Maller, Adolph M., Cook
Malloy, Francis D., Cook
Malmberg, K. J., Sangamon
Maloney, Arnold H. Jr., Jo Davies
Malow, Louis, Cook
Malsbury, Charles W., Macoupin
Mammoser, Lambert F., Cook
Manella, J. V., Cook
Mann, A. Seldon, Madison
Manning, John J., Cook
Manning, Roy F., DuPage
Mansion, George, Tazewell
Marbell, Reuben, Cook
Marbry, George W., Cook
Marciniak, Jerome B., Cook
Marcovitch, Joseph, Ford
Marcus, Philip M., Cook
Marcus, Samuel M., Cook
Marcusson, William B., Cook
Mark, Samuel J., Cook
Markiewicz, Simon V., Cook
Marks, Frederic S., Kane
Marks, Louis M., Cook
Marks, Morton G., McDonough
Markson, David E., Cook
Marquardt, Gilbert H., Cook
Marquardt, Theodore R., Cook
Marquis, Neil J., Whiteside
Maron, James Wm., Cook
Marshall, Alfred N., Fayette
Marshall, Frederic S., Cook
Marshall, G. R., Effingham
Marshall, William P., Lawrence
Martin, A. G., Kane
Martin, F. R., Macon

Martin, George William, Winnebago
Martin, John, Cook
Martin, Joseph I., Cook
Martin, R. R., Peoria
Marvel, Wiley, DeWitt
Masciocchi, Thomas A., Calhoun
Mason, Aaron S., Lake
Mason, Frank N., Cook
Mason, M. L., Cook
Massover, Alfred J., Cook
Mastrianna, D. T., Cook
Mathews, Henry M., Cook
Matheson, Harl Wood, Bureau
Mathis, J. A., Perry
Matousek, Frank L., Cook
Matson, Kenneth L., Cook
Mathews, Henry B., Cook
Matzkin, Lloyd L., Cook
Matzner, Irving A., Cook
Mau, Walter, Cook
Mauzey, Armand J., Cook
Maxson, Theodore R., Adams
Maxwell, Carl, Randolph
May, Percy C., Marion
Mayer, Hyman R., Jefferson
Mayer, Leo L., Cook
Mayes, Corwin S., Sangamon
Mayfield, Ike J., Scott
Mazet, Robert, Sangamon
McAllister, R. G., DeKalb
McBean, James B., Cook
McCall, Harold F., Cook
McCallen, A. M., Stephenson
McCarty, Dale C., Jackson
McCarthy, Martin J., Cook
McClanahan, Charles, Cook
McClanahan, Hick H. J., Cook
McClay, Elmo Todd, Sangamon
McClure, Donald W.
McCormick, C. O. Jr., Lake
McCormick, L. J., Rock Island
McCrae, L. A., Sangamon
McCraley, William J., Will
McCready, Robert B., Cook
McCulley, R. A., Winnebago
McCullough, C. P., Lake
McCullough, Clifford, Lake
McCuskey, J. M., Peoria
McDaniels, Herbert E.
McDonald, Ralph F., Cook
McDowell, M. M., Vermilion
McElligott, Maurice J., Cook
McEwen, Ernest G., Cook
McEwen, Kenneth Wicklund, Cook
McGaughey, William M., Cook
McGinnis, Philip C. Jr., Will-Grundy
McGinnis, Wm. S., Madison
McGuigan, Robert A., Cook
McGuinness, Geo. Alfred., DuPage
McIlnay, Olin F., Ogle
McIntosh, J. Robert, McLean
McIntosh, Walter Hunt, Cook
McKay, William G., Cook
McKinley, Hugh A., Lake
McKinley, James J., Cook
McKinley, James, Hines
McLauthlin, Carl H., Cook
McLean, Daniel R., Cook
McMahan, Herbert, Kankakee
McManus, William F., Cook
McMillan, Foster L., Cook
McMillan, John C., Cook
McMillan, C. W., Kankakee
McMorrow, Thomas R., Winnebago
McNally, Howard J., Cook
McNamara, Edward G., Cook
McNamara, Edward W., Cook
McNeely, G. B., McLean
McNemer, Philip, Alexander
McNertney, Francis D., McLean
McNutt, Justin, McLean
McQuiston, William O., Lee
McRae, Louis A., Sangamon
McShane, Patrick I., Cook
McSweeney, W. S., Will
McVety, Thomas Wilson, Macon
Mehmert, Henry E., Cook
Melendes, Stanis S., Cook
Melnick, Perry J., Cook
Meltzer, H. L., Dewitt
Melyn, John A., Cook
Melyn, Michael A., Cook
Menaker, Gerald J., Cook
Mendelson, Daniel J., Cook
Mennella, James V., Cook
Mennite, Nicholas M., Cook
Merar, Thomas J., Cook
Mercer, Ray, Adams
Mergener, John Charles, Cook
Merz, Earl H., Cook
Mesirow, Sidney D., Cook
Messman, L. E., Iroquois
Metrick, Joseph, Cook
Meyer, Alfred C., McDonough
Meyer, Geo. E., St. Clair
Meyer, Jos. C., Cook
Meyerson, Solomon B., Randolph
Michael, Isaac E., Cook
Michael, O. J., Vermilion
Michaels, Edward R., Cook
Michet, Clement J., Cook
Michmerhuizen, Robert, Cook
Mielcarek, Leonard, Cook
Milewski, Stanley Alex, Cook
Miller, Carl, Cook
Miller, Charles H. Jr., Johnson
Miller, Earl B., Cook
Miller, Edward B., Cook
Miller, Edward E., Alexander
Miller, Edwin M., Cook
Miller, Herbert P., Rock Island
Miller, H. R., Peoria
Miller, James R., Cook
Miller, Jacob M., Cook
Miller, Leo F., Cook
Miller, Louis J., Cook
Miller, Maurice, Cook
Miller, Milton L., Cook
Miller, Samuel I., Clay
Milles, George, Cook
Millet, George, Cook
Millet, R. F., McDonough
Milligan, Bruce Wade, Cook
Millis, Jack W., Cook
Mills, Morton J., Cook
Mills, Richard W., Jr.
Milroy, John J., Lake
Milroy, Robert Arthur, Kane
Mindlin, Joseph, Cook
Minner, Morris G., Cook
Mitchell, Carl R., Cook
Mitchell, George T., Clark
Mitchell, Joseph H., Cook
Mitchell, Robert H., Cook
Mitrick, Joseph M., Cook
Mittleman, Henry A., Madison
Mizock, Albert, Cook
Mizock, Sidney L., Cook
Moberley, Paul B., Cook
Moffat, J. S., Ogle
Mohardt, John H., Cook
Mohlenbrock, Wm., Jackson
Mohr, Walter C., Cook
Moisant, B. E., Kane
Molengraft, C. J., Cook
Monaco, Joseph T., Cook
Mongeau, Donald C., Cook
Monroe, Clarence W., Cook
Monroe, John W., Franklin
Monroe, Stanley Edwin, Cook
Montgomery, Bertis E., Saline
Montgomery, Nolan, Henry
Montgomery, Robert B., Champaign
Montgomery, Samuel A., Grundy
Moore, Bert, Vermilion
Moore, Franklin J., Cook
Moore, G. E., Morgan
Moore, Herbert R., Cook
Moore, Lawrence, Franklin
Moore, Rollin S., LaSalle
Moore, W. J., Winnebago
Moore, William A., Richland
Moore, William J., Cook
Morgan, Geo. Edward, McLean
Morgan, Jack A., Kane
Morginson, W. J., Sangamon
Morrey, Robert C., Cook
Morris, Harold R., Cook

Morris, Louis C., Cook
Morris, Neal, St. Clair
Morris, Richard P., Cook
Morrison, Allen R., Cook
Morrison, T. A., Cook
Morse, Lawrence S., Cook
Morton, John H., Cook
Morton, Joseph L., Edgar
Mosiman, William D., Tazewell
Mosko, Milton M., Cook
Moskovitz, Jack A., Cook
Moss, Kenneth J., Macon
Mossman, Jesse B., Cook
Motier, J. H., Cook
Movius, Alfred H., Cook
Moxon, James A., Cook
Mueller, Ferdinand Joseph, St. Clair
Mullen, Timothy, LaSalle
Mulliken, O. D., Elgin
Mulrooney, Raymond E., Montgomery
Mumler, William C., Cook
Munch, Robert F., Cook
Munson, F. W., LaSalle
Munson, Gordon B., Cook
Murdy, Carson B., Calhoun
Murfin, Maurice, Macon
Murphy, Edward L., Cook
Murphy, Edward S., Lee
Murphy, Francis C., Cook
Murphy, Frank G., Cook
Murphy, James P., Macoupin
Murphy, Michael J., Cook
Murphy, Robert C., Cook
Murphy, T. J., Macon
Murphy, Virgil L., Vermilion
Murrah, Frank C., Williamson
Murray, Charles A., Cook
Murray, Clarence A., Cook
Murray, D. E., Cook
Musick, Rowland Harold, LaSalle

Nabbe, Philip M., Cook
Nachman, Adolph R., Cook
Nachtman, Howard F., Fayette
Nadeau, Oscar E., Cook
Nadheryny, George C., Cook
Nagel, Frank E., Cook
Napolilli, Francis A., Cook
Nash, John V., Cook
Neal, Lovell A., Coles
Neber, E. N., Marion
Nedoss, Hyman P., Cook
Needels, L. J., McLean
Neseman, Arthur C., Lake
Neff, E. B., Rock Island
Neff, Lionel H., Livingston
Neff, Lowell, Livingston
Nehf, Albert, Kankakee
Neiman, Benjamin H., Cook
Neinburger, Paul S., Edwards
Nejdl, Lambert J., Cook
Nelson, Bertram G., Cook
Nelson, C. L., DeKalb
Nelson, Caryl, DeKalb
Nelson, Charles A., Tazewell
Nelson, Clayton E. J., Cook
Nelson, Kent, Ford
Nelson, Lorenzo R., Cook
Nelson, Peter A., Cook
Nelson, Tell, Cook
Nerger, Vernon Durward, Cook
Neri, Michael Peter, Cook
Nesmith, Harry D., Marion
Nesselrod, J. Perrman, Cook
Nesseman, A. C., Lake
Neuchiller, Bernard B., McHenry
Neuhoff, C. F., Peoria
Neukamp, Frank N., Kane
Neveln, Lowell C., Knox
Newell, Frank W., Cook
Newell, Robert H. Cook
Newton, William H., Cook
Nianick, Leonard M., Cook
Nicholson, Paul G., Will-Grundy
Nicoll, Homer K., Cook
Nieder, Samuel, Iroquois
Nierenberg, Paul S., Edwards
Niess, Oliver K., St. Clair
Nixon-Davis, W. J. Jr., Cook
Noble, Thomas A., Cook
Noggle, Charles L., Cook
Nolan, Lewis E., Lee
Nold, Ralph J.
Nolden, Wesley, St. Clair
Norbury, Frank Garm, Morgan
Norris, Harold V., Morgan
Norris, R. M., Morgan
North, Francis S., Lake
Noto, Samuel C., Cook
Nourie, R. L., Kankakee
Novack, Benjamin F., Kane
Novack, Louis, Cook
Nowlin, Owen, DeWitt
Nuzie, S. B., Coles-Cumberland
Nye, William A., McHenry

Oberhill, Harold R., Cook
OBrien, Donand E., Cook
OBrien, George F., Cook
OBrien, Thomas V., Cook
OCasek, Miles, DuPage
O'Connell, Morgan, Cook
OConnell, William M., Winnebago
OConnor, James D., Peoria
OConnor, John, Peoria
Oden, Joshua, Jr., Cook
Odgers, Stephen L., Cook
O'Donnell, Fred D., Cook
Ofarrell, Patrick E., Macoupin
Ogden, Lynden, Champaign
Ogle, Dan C., Mercer
Ohrenstein, Irving R., Cook
Okner, Henry B., Cook
Oleck, Henry T., Cook
Olinger, David L., DuPage
Oliver, Westley B., Boone
Olmsted, Randolph F., Cook
Olsman, Louis, Cook
Olson, Clarence, Bureau
Olson, C. P., Winnebago
Olson, Elmer J., Cook
Oltman, Diedrich L., Rock Island
Olwin, John, Cook
Olwin, John H., Crawford
O'Malley, James E., Cook
O'Neil, Hugh B., Cook
O'Neil, James T., Christian
O'Neill, James B., Cook
Orcutt, Wm. H., Cook
Orr, Kenneth D., Cook
Orrico, Joseph P., Cook
Orsburn, Ernest V., Cook
Osborne, George M., Cook
Osher, Seymour L., Cook
Osman, Emanuel M., Kankakee
Osterhagen, H. F., Coles-Cumberland
Ostrum, M. L., Rock Island
Ouandt, Eberhardt, H., Vermilion
Ovitz, John W. Jr., DeKalb

Pachman, Daniel J., Cook
Padorr, David, Cook
Padorr, Marvin P., Cook
Palermo, Amiel L., Cook
Paisley, A. M., Morgan
Palmer, W. H., Winnebago
Palumbo, Louis T., Cook
Paolozzi, Hannibal H., Cook
Papierniak, Frank B., Cook
Pardy, Frances P., Cook
Parker, F. C., Vermilion
Parker, Francis W. Jr., Cook
Parker, Geo. M., Peoria
Parker, Harry J., Cook
Parker, M. H., Clay
Parker, Robert J., McLean
Parker, Thomas Wayne, Madison
Parkin, Edward M., Cook
Parmacek, Louis, Cook
Parratt, L. W., McHenry
Parrilli, William F., Cook
Parrillo, Orest J., McDonough
Parsons, H. H., Rock Island
Parrott, Elmer L., DuPage
Partipilo, Anthony, Cook
Partridge, Milton H., Kane
Passarelli, Arthur F., Adams
Pastron, Seymour S., Cook
Patchen, P. J., Cook
Patient, William F., St. Clair

Patt, John E., Cook
Patterson, J. B., Cass
Patterson, Roy, Fulton
Patton, Robert, Sangamon
Pearlman, Maurice D., Cook
Pearson, E. F., Sangamon
Peck, Hyman, Cook
Peckler, David A., Cook
Pedersen, Axel L., Cook
Pelkey, George L., Cook
Pellettiere, Edmund V., Cook
Pellettieri, Nino, Cook
Peltzer, Wesley E., Cook
Penning, Howard L., Sangamon
Percy, Irving E., Cook
Perkins, George L., Cook
Perkins, R. D., Rock Island
Perkins, William Charles, DuPage
Perlman, Lawrence, Cook
Perlmutter, Harold M., Cook
Pernokis, Evans W., Cook
Pernworth, Paul H., Madison
Perritt, Richard A., Cook
Perry, Edward J., Cook
Peters, Walter J., Cook
Peterson, A. Clarence, Cook
Peterson, Arthur Karl, Cook
Peterson, George H., Kane
Peterson, Morris, Cook
Peterson, Paul G., Cook
Peterson, Philip L., Cook
Petri, K. N., Peoria
Pettry, Harvey, Shelby
Peven, Philip S., Cook
Phelps, Gardner D., Cook
Phillips, John Aubrey, McHenry
Phillips, Roy, Cook
Phillips, Spencer K., Cook
Phillips, Walter J., Cook
Phillips, William P., Cook
Pick, James W., Cook
Pickett, William J., Cook
Pilchman, Sam, Bureau
Pinne, George F., Cook
Piper, William N., Edgar
Piszkiewicz, Frank Joseph, Cook
Pister, Max, Cook
Pittman, Cole D., Peoria
Pitzaferro, John J., Cook
Plain, George, Kane
Platt, Alfred J., Cook
Platt, Matthew, Cook
Plaut, Adrian A., Cook
Plaut, Clarence T., Cook
Plaut, Julian L., Cook
Plestina, Joseph M., Cook
Pohl, Carl Matthias, Jr., Cook
Polan, Robert J., Cook
Pollack, Samuel, Cook
Pollack, Seymour L., Cook
Pollard, Edward V., DeWitt
Pollack, Fred, Cook
Pomaranc, Mark M., Cook
Pope, Charles Evans, Cook
Poremski, Thaddeus, A., Cook
Porte, David M., Cook
Porter, G. L., Champaign
Poska, T. A., Rock Island
Post, John, Cook
Potekin, Jesse S., Cook
Potter, Charles Chandler, Madison
Potter, J. J., Winnebago
Potter, Robert M., Cook
Potts, W. J., Cook
Powell, Harry I., Cook
Powell, J. R., Champaign
Prempas, Thomas G., Cook
Pressman, David, Cook
Preston, Frederick W., Cook
Pribble, John H., Cook
Price, Harold, Cook
Price, Joe H., Hamilton
Price, R. G., McLean
Pritikin, Roland I., Cook
Probasco, J. J., Winnebago
Prunty, F. C., Champaign
Przygocki, S. F., Cook
Puckey, Maurice V. H., Cook
Puestow, Charles B., Lake
Puntenney, Irving, Cook
Purvey, John C., McHenry
Pyzik, Stanley W., Cook

Quandt, Eberhardt, H., Winnebago
Quen, Frank B., Cook
Quenzer, Fred A., Cook
Quin, Jeremiah, Cook
Quinn, E. R., Madison
Quinn, Frank M., Cook
Quinn, H. Edmond, Cook

Raber, Paul A., Cook
Raclin, Ralph Arthur, Cook
Radzyminski, S. F., Cook
Rafool, Francis, Peoria
Ragins, Alex R., Cook
Raichart, William A. J., Cook
Raider, Jack H., Cook
Raider, Joseph, Lake
Raiford, Theodore Sidney, Macon
Rainey, C. W., Cook
Ralston, Donald E., Ford
Rambar, Alwin C., Cook
Ramenofsky, A. I., LaSalle
Ramey, Cash C. Jr., Brown
Rampona, Louis E., Cook
Rand, George L., Cook
Randell, Harold E., Cook
Randolph, Henry E., Cook
Ranke, Eugene J., Cook
Rankin, Tyler, Winnebago
Rannells, Charles H. J., Cook
Ranney, Alden B., Cook
Ransom, G. T., Wayne
Ranson, Stephen W., Jr., Cook
Rapp, William E., Cook
Rappaport, Joseph N., Cook
Rasche, Herbert P., Cook
Rattanne, Edward, Cook
Rattner, Bernard, Cook
Rayer, K. N., Kankakee
Raymond, Frank K., Cook
Raymond, Sidney W., Cook
Rayson, E. H., LaSalle
Reagan, Sheldon W., Kankakee
Reagan, Thomas H., Cook
Reaney, Burnell V., Cook
Reasoner, M. A., Madison
Rebillot, J. R., Montgomery
Redmond, Ralph N., Whiteside
Reed, Francis A., Cook
Red, Joseph, Cook
Reeder, Clifton L., Saline
Reichert, Donald J., Kane
Reid, Stephen E., Cook
Reierson, Peter A., Cook
Reifler, Reuben M., Christian
Reilly, Maurice J., Cook
Reimers, Leslie R., Cook
Reingold, Herbert J., Cook
Reinhardt, Charles O., St. Clair
Reinhardt, O. F., St. Clair
Reisch, J. E., Sangamon
Reiter, Joseph, Cook
Reitman, Paul H., Cook
Rence, William G., Cook
Requarth, William H., Cook
Resnick, Carl H., Cook
Rest, David, Cook
Restarski, Alvin F., Cook
Restivo, Jack L., Cook
Reuther, Theo F., Cook
Reymont, Anthony E., Cook
Reynolds, Robert L., Cook
Reynolds, William F., St. Clair
Rhea, Keith, DeWitt
Rian, Oliver, Peoria
Riba, Leander W., Cook
Ricci, Henry N.
Richards, Francis L., Sangamon
Richardson, Gene T., Cook
Richman, S. H., Rock Island
Richmond, Julius B., Cook
Richter, Harry M. Jr., Cook
Ricketts, F. J., Champaign
Ricketts, J. A., McHenry
Rider, Larry D., McDonough
Rightman, Bert, Cook
Rink, Arthur G., Cook
Rinker, William L., Sangamon
Ripley, Louis Paul, Cook

Ritter, Jerome, Vermilion
Ritter, Israel Irving, Cook
River, Louis P. Jr., Cook
Roane, R. D., Clinton
Roark, Samuel P., McDonough
Robbins, Fred P., Cook
Robbins, Joseph M., Cook
Robbin, Nathan L., Cook
Robbins, R. H., Lake
Roberg, Norman B., Cook
Roberg, O. Theo. Jr., Cook
Roberson, William V., Madison
Roberts, E. L., Iroquois
Roberts, George M., Cook
Roberts, Jack, Will
Roberts, J. M., Iroquois
Roberts, Ralph C., Cook
Robertson, Howard Miles, Cook
Robin, Milton, Cook
Robinson, Harry M., Cook
Robinson, Leon E., Mercer
Robinson, Paul I., Jefferson
Robinson, Robert W., Jefferson
Rocco, Paul C., Cook
Rockey, L. F., Stephenson
Rockey, V. V., Stephenson
Rodewald, H. H., Jackson
Rodholm, Ansgar K., Cook
Rodriquez, Arthur A., Cook
Roeder, S. D., Iroquois
Rogers, J. C. Thomas, Champaign
Rokita, Adam W., Pike
Romano, John E., Cook
Romanski, Arthur F., Cook
Rome, Sol, Cook
Rooney, James A., Warren
Root, Donald H., Adams
Rooth, Sydney S., Cook
Rosack, Henry P., Cook
Rosanova, Albert R., Cook
Rose, Fred E. Jr., St. Clair
Rose, Gabriel, Kankakee
Roseborough, A. S., Winnebago
Roseman, Ephraim, Cook
Roseman, L. L., Mason
Rosen, Benjamin B., Cook
Rosen, David, Clark
Rosen, Isaac, Cook
Rosenbaum, Edward E., McDonough
Rosenberg, David Harry, Cook
Rosenberg, J., Kane
Rosenberg, Nathan, Cook
Rosenberger, Andrew, Jasper
Rosenbloom, Harold H., Cook
Rosenblum, Albert F., Cook
Rosenblum, Alfred H., Cook
Rosenblum, Bernard F., Cook
Rosenblum, Earl, Cook
Rosenfeld, Robert T., Cook
Rosengard, J. L., Cook
Rosengrant, George B., Cook
Rosensteil, Henry, Stephenson
Rosenthal, Carl, Cook
Rosenthal, Irving H., Cook
Rosenthal, Martin J., LaSalle
Rosenthal, Moris M., Cook
Rosete, Francisco, A., Cook
Rosi, Reno, Cook
Ross, Charles A., Knox
Ross, Donald, Cook
Ross, Perry W., Cook
Ross, Philip H., Cook
Rossiter, Donald E., Lake
Rossman, E. J., Kane
Roth, Harold A., Cook
Roth, John Bernard, Grundy
Roth, Julius Andrew, Macoupin
Roth, Leslie W., St. Clair
Rothenberg, M., Marion
Rothman, Albert, Hancock
Rottapel, David J., Cook
Royce, Emery E., Marshall
Royce, Grant E., McHenry
Rubens, Eli, Cook
Rubenstein, Hyman I., Cook
Rubenstein, Joseph, Cook
Rubin, Gerald S.
Rubin, Herbert E., Cook
Rubin, Simon S., Cook
Rubenstein, H. I., Cook
Rubin, Harold, Cook
Rubin, Herbert E., Cook
Rudens, Maurice C., Cook
Rudnick, Dorrin F., Cook
Rubovitz, Frank E. Jr., Cook
Russell, Arch S., Champaign
Russell, Lyle W., Bureau
Rutherford, R. H., Macoupin
Rutledge, J. H., Pike
Ryan, Albert R., Greene
Ryan, H. E., Marion
Ryan, H. O., Adams
Rygh, Edgar A., Lake
Rylander, Carl M., Knox
Rypins, E. L., McLean

Sabath, Donald J., Cook
Saberman, Meyer I., Cook
Sachnoff, Maurice, D., Cook
Sachs, Mandel J., Cook
Sacks, Harold J., Cook
Saide, Robert A., Kankakee
Sala, R. O., Rock Island
Salberg Arthur K., Cook
Saletta, Chas. A., Cook
Saletta, Frank J., Cook
Saltman, Simon Y., Cook
Salvatore, Anthony G., Franklin
Salzman, J. M., Sangamon
Sammis, Anthony C., Macoupin
Sams, Crawford F., St. Clair
Sanberg, Heinz Kurt, Shelby
Sandberg I. M., La Salle
Sanders, Zal H., Rock Island
Sandler, William S., Cook
Sandy, William A., Lake
Sansone, Vincent C., Sangamon
Santaniello, William, Edwards
Santoro, Antonio, Cook
Saphir, William, Cook
Sargent, William F., Marion
Sarkissian, S. D., Cook
Sarma, Pashupati J., Cook
Sasko, Vladimir M., Cook
Sass, Louis A., Cook
Satz, Leo, Cook
Sauer, F. E., Winnebago
Saul, Leon Joseph, Cook
Saunders, H. Prather, Cook
Savage, John L., Cook
Savitt, Leonard E., Cook
Sawyer, James G., Cook
Sawyer, Preston, Vermilion
Sax, Daniel D., Cook
Saxon, Leonard, Cook
Saxon, M. R., Kane
Sazama, Francis J., Cook
Scanlon, William, LaSalle
Schaefer, Joseph E., Cook
Schafer, Robert, Cook
Schaffer, Bernard J., Cook
Schaller, E. H., Monroe
Schaller, O. B., Iroquois
Scheinberg, Schayel, Cook
Scheman, Louis, Cook
Schertz, Truman B., Woodford
Schettler, R. E., Randolph
Schiff, A. L., Cook
Schiff, Isadore J., Cook
Schiff, Joseph H., Cook
Schilsky, J. L., Sangamon
Schimmel, Walter A., Cook
Schindler, John A., Cook
Schlesinger, Lee H., Cook
Schmitt, Paul G. F., Cook
Schneider, Gerald E., Cook
Schneider, Harold, Bond
Schneider, Max, Cook
Schneider, Sam, Randolph
Schnell, Richard J., Winnebago
Schnepp, Kenneth H., Sangamon
Schnicke, E. H., Bureau
Schoenwetter, Arthur H., Cook
Schoolman, Joseph G., Cook
Schotz, Seymour, Cook
Schowengerdt, W. H., Champaign
Schreiber, Manuel, Cook
Schrek, Robert, Cook
Schrey, Edward L., Cook
Schreiber, Adrian, Boone
Schroth, George J., Cook
Schubert, Michael, Marshall
Schultz, Alfred, Morgan
Schultz, Abraham, Cook
Schultz, Gordon H., McLean

Schuman, Irving, Cook
Schurmeier, Frederick A., Kane
Schwart, Edward J., Cook
Schwartz, Isadore, Livingston
Schwartz, Louis, Kankakee
Schwartz, Louis B., Cook
Schwartz, Martin L., Jackson
Schwartz, Walter W., Cook
Schweitzer, Edmund H., Winnegago
Schwerin, George S., Cook
Scopelite, J. A., Madison
Scott, A. C., Randolph
Scott, Dale F., Whiteside
Scott, Jack P., Cook
Scott, Stephen C., Cook
Scott, Thomas C., McLean
Scott, Thomas G., Livingston
Scott, Wilbert E. Jr., McLean
Scudieri, Carmen, Grundy
Seaforth, Edward W., Cook
Seaman, William B., Cook
Sears, K. M,. Kane
See, William B., Cook
Seed, Lindon, Cook
Seeley, Harmon, DeWitt
Segenreich, Harry M., Kankakee
Seidman, Leon H., Cook
Seidmon, Edward E. P., Cook
Seifert, E. H., Knox
Seifert, W. F., Winnebago
Seinfeld, Samuel Gero, Cook
Sellett, Leonard V., LaSalle
Seltzer, Alvin, Montgomery
Senenthal, Michael L., Cook
Seron, Vaheh, Will
Serota, Herman, Cook
Serritella, Rocca V., Cook
Sexton, George, Champaign
Seymour, Fred W., Cook
Seymour, Guy E., McLean
Shabat, L. Willard, Cook
Shagam, Robert M., Cook
Shalla, Leon S., Cook
Shallenberger, P. L., Cook
Shamel, J. H., Iroquois
Shapiro, Arthur J., Cook
Shapiro, Fred, Cook
Shapiro, Louis, Kankakee
Shapiro, Maynard I., Cook
Shapiro, Isadore M., Cook
Shapiro, Morris J., Franklin
Shapiro, Samuel, Cook
Sharer, G. L., Kane
Sharer, Robert F., Cook
Sharp, J. R., Macoupin
Sharpe, George, Cook
Shaw, Jesse W., Cook
Shaw, Maurice M., Cook
Shaw, William B., Cook
Sheadc, Albert, Cook
Sheagren, John W., Vermilion
Sheehe, N. L., Winnebago
Sheets, Raymond F., Hancock
Shellow, Harold, Cook
Shepherd, Earl D., Cook
Sheridan, Edward Paul, Lawrence
Sherman, Thomas W., Cook
Sherrod, Vincent Alan, Crawford
Shevin, Selig A., Cook
Shinall, Harold, St. Clair
Shinglemen, Willard E., Cook
Shoger, Gilbert, Cook
Shriner, Walter, Kane
Shronts, John F., McHenry
Shulruff, Harry I., Cook
Shultz, Gordon H., McLean
Shuman, Harry W., Rock Island
Shure, Norman, Cook
Sibilsky, Carl, Peoria
Sideman, Sidney, Cook
Siegal, Henry A., Cook
Siegal, Irving, Cook
Siegel, Morris, Cook
Siegel, Theodore, Jefferson
Sieger, Simon, Vermilion
Siegert, R. B., Christian
Silver, Saul L., Cook
Silverstein, Joseph, Cook
Simmons, Warren K., Cook
Simon, S. W., Cook
Simons, Joseph, Cook
Simons, Morton, Cook
Simonson, Melvin, Cook
Simpson, R. M., Macoupin
Sims, Murray W., Cook
Simunich, William A., Cook
Sinaiko, Russell P., Cook
Singer, John D., Cook
Singer, Paul L., Cook
Sinnott, Richard F., Cook
Sintzel, Aldis R., St. Clair
Sippy, Hall I., Cook
Skeele, William A., Madison
Skinner, Merton B., Will
Sklar, Isidore A., Cook
Skolnik, Emanuel M., Cook
Sladek, William R., Cook
Slater, R. A., Peoria
Slatin, Louis, Bureau
Slaw, Adam, Tazewell
Sloan, Howard P., McLean
Sloan, Jack Herzl, Cook
Slobodin, Harry, Cook
Slott, Irving, Cook
Slotta, Alfred M., Cook
Slusser, Gerald A., Douglas
Smejkal, Walter F., Cook
Smialek, John M., Cook
Smiley, William A., Cook
Smith, C. Otis, Cook
Smith, Carleton R., Douglas
Smith, Durand, Cook
Smith, Edward C., Cook
Smith, George W. Jr., Cook
Smith, Harvey S., St. Clair
Smith, Herschel S., LaSalle
Smith, Homer E., Cook
Smith, James J., Cook
Smith, Kenneth John, Cook
Smith, Louis D., Cook
Smith, Paul, Crawford
Smith, Robert H., Cook
Smith, Sidney, LaSalle
Smith, Stuart G., Union
Smith, William B., LaSalle
Smith, Winston Wm., Lake
Smollar, Leo, Cook
Snavely, John R., Whiteside
Snead, Claude R., Cook
Snively, W. D., Rock Island
Snydacker, Daniel, Cook
Snyder, Rufus A., Cook
Sodaro, Eugene J., Cook
Sofield, Harold A., Cook
Sokol, John K., Cook
Sokolowski, F. W., Madison
Solander, Carl K., Cook
Soldmann, William T. Jr., Cook
Solomon, Ernest M., Cook
Solomon, Jerome, Cook
Solomon, Samuel Jr., Cook
Somers, Harry V., Cook
Sommers, Sheldon, Lake
Sondag, R. F., St. Clair
Sosson, Edward, Cook
Soukup, Victor, Logan
Sours, James W., Peoria
Sowden, Paul R., Cook
Spackman, Ross H., Cook
Spaeth, Ralph, Cook
Spector, Frederick, Cook
Spector, Israel H., Cook
Speer, Ralph E., Cook
Spellberg, Mitchell A., Cook
Spencer, R. A., Cass
Spicer, Donald D., Edgar
Spierer, Eugene, Cook
Spinka, Isadore, Kankakee
Spira, Samuel B., Cook
Spiro, Harry M., Clay
Spivek, Mandel L., Cook
Spomer, John P., Cook
Sprafka, Raphael R., Cook
Stack, James K., Cook
Stackhouse, S. P., Lee
Stahmann, F. S., Peoria
Stamler, Maurice, Macon
Stanbery, George A., Fayette
Standish, Myles, Cook
Stanton, Herbert M., DuPage
Stanuel, Peter J., Lake
Starck, Carl Danielsen, Cook
Starkee, Carlton C., Massac
Starkey, T. A., Cass

Starnes, William L., LaSalle
Staron, John M., Cook
Starr, Adolphus R., Cook
Starr, Merritt P., Cook
Starsiak, Casimir R., Cook
Stassi, Antony V., Will
Stazio, Gerald M., Cook
Stearns, Alexander L., Cook
Steck, Irving E., Cook
Steele, Wendell M., Kane
Steer, A. E., Sangamon
Stegmaier, George, Cook
Stein, Albert F., Cook
Stein, Alfred, Cook
Stein, Benjamin F., Cook
Stein, Emil J., Cook
Stein, Justin J., Cook
Stein, Philip J., Cook
Steinberg, D. Louis, Cook
Steinberg, David W., Cook
Steinberg, Hyman S., Cook
Steinberg, Meyer, Cook
Steinberg, Meyer J., Cook
Steinbock, Henry F., DuPage
Steinbrecher, B. C., Cook
Steiner, Edward J., Cook
Steiner, Louis M., Cook
Steiner, William E., Marion
Steinert, Theodore, Cook
Steinhoff, Carl F., Cook
Steinman, William, Cook
Stellner, Howard A., Knox
Stengel, H. J., Ogle
Stenn, Arthur, Cook
Stephen, Robert J., Will
Stephens, Ed, Marion
Stephens, Harry H., Cook
Stephenson, G. W., McLean
Stephenson, Hack U. Jr., Cook
Sternberg, Thomas H., Peoria
Stettauer, Joseph L., Cook
Stevens, J. W., Perry
Stevens, Philip Henry, Cook
Stevenson, Walter, Adams
Stewart, B. Lyman, Sangamon
Stewart, F. J., Henry
Stillerman, Manuel L., Cook
Stilwell, L. M. T., Champaign
Stimson, Horace P., Cook
Stinchfield, Frank E., Greene
Stine, Leonard A., Cook
Stokes, Robert F., Cook
Stoll, C. G., Lawrence
Stoll, John E., Cook
Stone, Fred D., Cook
Stone, Herman, Richland
Stone, Herman H., Cook
Stoops, Richard B., Cook
Stotz, Kenneth F., Cook
St. Pierre, Roderick G., Fayette
Straus, Francis H., Cook
Strohl, Everett L., Cook
Strong, Edwin R., DuPage
Strouse, Carl D., DeKalb
Stuart, Carroll W., Cook
Stubblefield, H. I., McDonough
Stuppy, George W., Cook
Stuteville, Orion, Cook
Sugar, Hyman, Saul
Sugden, Charles, Lake
Suino, John B., LaSalle
Sukey, John, Cook
Sukis, Anthon Edward, Cook
Sukov, Marvin, Cook
Sullivan, Ralph D., Cook
Sullivan, Samuel J., Cook
Sullivan, Tim, Whiteside
Sullivan, William B., Cook
Summers, Thomas F., Richland
Sumner, Albert, Cook
Sutch, V. J., Champaign
Suttie, Grant, DeKalb
Suttle, Robert C., Knox
Sutton, Charles F., Peoria
Sutton, Robert M., Peoria
Svetich, Edward, Will
Swantz, Henry E., Cook
Swartz, Howard, McLean
Swartz, Isadore, Livingston
Sweeley, William J., Cook
Sweeney, Anthony J. Jr., Cook
Sweeney, Leo P., Cook
Sweitzer, Caesar, Cook
Swift, Frederick J. Jr., Cook
Swigert, Verne, Cook
Swiontkowski, Stanley, Cook
Sykora, Lawrence J., Cook
Szczurek, Edward W., Cook
Szewczyk, Thaddeus S., St. Clair
Szukiewicz, John A., Cook
Szymczak, Francis S., Cook

Talbot, Charles G., Cook
Talbott, Ralph E., Cook
Tambone, John R., Cook
Tanz, Stanley S., Madison
Tarre, Harold I., Cook
Taub, Norman, Cook
Tauber, Sidney W., Cook
Tavenner, J. L., Lee
Taylor, Eugene E., Cook
Taylor, James H., Douglas
Taylor, James S., Cass
Taylor, Lawrence K., Franklin
Taymor, Joseph, Cook
Teasley, B. C. Jr., Crawford
Teborek, Roy F., Cook
Teitelman, S. Lloyd, Cook
Telford, E. W., DeKalb
Telser, Stanley E., Cook
Temple, Claude Oliver, Cook
Tepper, Sidney M., Cook
Terrell, E. E., Edgar
Terone, Henry M., Cook
Tesar, Frank Joseph, Cook
Teter, Lloyd F., Tazewell
Tetrev, Jaroslav, Cook
Textor, Charles S., Cook
Thatcher, Harold W., Cook
Theis, Frank V., Cook
Thelan, L. L., Kane
Thomas, Arthur H., Cook
Thomas, Clyde O., Stephenson
Thomas, Edward M., Greene
Thomas, E. W., Cass
Thomas, Joseph W., Effingham
Thomas, Morris E., Cook
Thometz, Robert W., Cook
Thompson, Arnold M., Cumberland
Thompson, E. L., Peoria
Thompson, Harry, Jefferson
Thompson, Orris M., McLean
Thornburg, W. M., Perry
Thrift, Chester B., Cook
Thurerer, George R., McHenry
Thurston, E. W., Cook
Tidwell, John W., Williamson
Timm, Oreon K., Vermilion
Timmons, P. J., Henry
Tindall, F. G., Winnebago
Tinsley, Milton, Cook
Tobiasz, Alfred E., Cook
Tobin, James W., Kane
Tobin, Walter W., Cook
Todd, Malcolm C., Alexander
Toomey, Noxon, Sangamon
Toomey, Thomas N., Sangamon
Topcik, A. A., Lake
Towle, Gilbert A., Cook
Towner, F. R., Kane
Tracy, Paul C., Cook
Trapp, Anthony N., Cook
Trapp, Robert N., Logan
Tremaine, Myron J., Logan
Trepagnier, Francis B., Ford
Tresley, Ira J., Cook
Triolo, Anthony, Cook
Trotter, J. D., Hancock
Trumpe, D. H., Sangamon
Tsoulos, George D., Cook
Tulsky, Alex S., Cook
Turek, Mandel H., Cook
Turley, Vigo Thomas, Macon
Turnbull, George C., Cook
Turner, George C., Cook
Turner, John W., Cook
Turner, Marion A., Franklin
Turner, Samuel J., Cook
Turow, Irving L., Peoria
Tussing, Rudolph F., Cook
Tyllas, Harry A., Cook
Tysell, John E., Cook

Udesky, Herbert L., Cook
Uncapher, Rex P., Cook
Urbas, John E. Jr., Vermilion
Urist, Maurice, Kankakee
Urkov, Joseph ,Cook
Uthoff, Carl J., Cook
Utter, Henry, Saline
Utz, Walter J., LaSalle

Vacante, Anthony B., Cook
VanAtta, Roger A., Cook
Vandermyde, I., Whiteside
Van Dorf, Nathaniel, Cook
Van Hook, Henry M., Logan
Van Kirk, Frank W. Jr., Cook
VanderLaan, John E., Cook
Vandermyde, Isaac, Whiteside
VanLandingham, H. W., Winnebago
Van Orden, Max T., Cumberland
Van Pernis, Paul A., Jefferson
Van Wein, Stefan, Cook
Varney, Harley R., Henry
Vass, Alajos, Sangamon
Vazquez, Hector O., Cook
Vermeren, John C., Cook
Vermeulen, Cornelius, Cook
Verneuil, J. L., Madison
Veseen, Leslie L., Cook
Vesely, Harry Charles, Peoria
Vicher, Edward E.
Vickery, Eugene L., Stephenson
Viers, John Wesley, Knox
Voller, Richard L., Cook
Voltz, V. C., Winnebago
VonZelinski, Walter, Cook
Voris, Harold C., Cook
Vorisek, Eler A., Cook
Vryonis, George, Champaign
Vynalek, William J., Cook

Wachs, Leonard V., Cook
Wade, Chester, Cook
Wadsworth, Harold V., Will
Wagenseller, Samuel Miller, Macon
Wagner, Arnold, Cook
Wagner, David H., Cook
Wagner, Jack, Cook
Wagner, M. W., Cook
Waisman, Morris, Cook
Wakefield, William J., Macon
Walbright, George W., Douglas
Wald, Sidney Irving, Perry
Walker, F. Earl, Cook
Walker, Wayne R., Tazewell
Walker, Wm. D., Washington
Wall, Emmett D., Peoria
Wall, John W., Cook
Wall, Sidney I., Perry
Wallace, James H., Cook
Wallace, John K., Marion
Waller, James B., Macon
Wallheiser, Laverne M., Cook
Wallner, Linden J., Lake
Walpole, Stewart H., Cook
Walsh, Edmund N., Cook
Walsh, J. A., Peoria
Walsh, John J., Cook
Walsh, Thomas G., Cook
Walter, Jacob, Cook
Walters, William H., Cook
Waltman, Charles A., Cook
Walton, Joseph E., Champaign
Walzer, Israel, Cook
Waner, Wm. L., Cook
Wangelin, E. H., St. Clair
Ward, Carl, Livingston
Ward, Edward J., Peoria
Ward, James A., Massac
Warmolts, Lambertus, Ogle
Warner, H. R., Winnebago
Warren, Harry A., Champaign
Warren, Irving A., Cook
Warsaw, Eugene, Cook
Warshell, Arnold H., Cook
Was, Harold H., Cook
Washington, John C., Cook
Waskow, W. L., Winnebago
Waskowicz, Aloysius T., Cook
Wasserman, Reuben R., Cook
Waters, L. C., Henry
Waters, William I., McLean
Wathier, L. N., Henry
Watson, Ernest S., DuPage
Watters, C. L., Henry
Wattleworth, K. L., Jasper
Waude, Sidney P., Cook
Wayland, Thomas Z., Williamson
Weatherly, J. A., Jackson
Weaver, Thomas A. Jr., Greene
Webb, Edward F., Winnebago
Webber, Max W., Woodford
Weber, Bernard A., Richland
Weber, Eugene P., Richland
Weber, Lawrence F., Richland
Weber, Thomas L., Richland
Webster, James Randolph, Cook
Wedig, John H., Madison
Wedral, Jerry W., Cook
Weed, Vernon A., Coles
Wegner, E. A., Cook
Weidner, Morris R., Cook
Weil, Nathan Jr., Cook
Weinberg, Benjamin A., Adams
Weinberg, Bernhard J., Cook
Weinberg, Charles M., Cook
Weinberg, Harry B., St. Clair
Weinberg, Julius J., Perry
Weiner, Harry I., Cook
Weiner, Sam F., Cook
Weinfeld, Gus, Lake
Weinstein, Leonard, Cook
Weinstein, Roy C., Cook
Weinstein, Seymour, Cook
Weinstein, William, Greene
Weintraub, I. Irving, St. Clair
Weir, Edgar W., Piatt
Weisbach, Philip T. Jr., Cook
Weisberg, William W., Cook
Weisdorf, William, Cook
Weiss, Eugene, Ogle
Weiss, J. Allan, Cook
Weiss, John M., Rock Island
Weiss, Leon H., Cook
Weissbuch, Mitchel R., Cook
Weisskopf, Leonard H., Cook
Weissman, Charles G., Madison
Weissman, Irving, Alexander
Weissman, Leonard H., Cook
Weissman, Louis, Cook
Welch, James K., Fulton
Wellstein, A. W., Henry
Welsh, Raphael J., Cook
Wendorf, Albert, Cook
Wendt, Alfred C. Jr., Cook
Wente, C. F., Kane
Werbel, Ernest W., Cook
Werner, Wm., Tazewell
Werth, Joseph, Monroe
West, John Baldwin, Cook
West, John F., Boone
Westenberger, L. H., Cook
Westmark, Carl, Cook
Weston, Charles L., McDonough
Wexler, Samuel, Logan
Wharton, James D., Cook
White, Harvey, Cook
White, M. E., Kankakee
White, Noland W., Marion
White, Minor E., Kankakee
Whitfield, Harvey J., Cook
Whitmer, R. Glenn, Cook
Wien, Norman A., Cook
Wiener, Morton J., Hamilton
Wigodsky, Herman S., Cook
Wilburne, Morris, Cook
Wiles, Isaiah A., Cook
Wilkinson, Arthur W., Cook
Williams, Edward V., Ford
Williams, Ernest B., Cook
Williams, Francis R., Cook
Williams, Howard, Cook
Williams, Jack, Clark
Williams, Philip C., Cook
Williams, Reden R. Jr., Fulton
Williams, Robert E., Cook
Williams, Silas W., Saline
Williamson, Ben K., Adams
Williamson, H., Vermilion
Willis, David A., Cook
Wilson, Arthur D., Greene
Wilson, Clyde S., St. Clair
Wilson, Earle Edward, Cook

Wilson, Ellsworth, Madison
Wilson, Hugh, Lake
Wilson, S. J., Champaign
Wiltrakis, George A., Madison
Wiltrakis, George G., Cook
Windham, Samuel W., Greene
Winer, Allen E., Cook
Winograd, Alvin M., Cook
Wittenberg, C. E., McLean
Wloczewski, Joseph A., Cook
Woerner, Charles A., Cook
Wojcik, S. J., Lee
Wojtowicz, Henry W., Cook
Wolf, Alexander, Cook
Wolf, Luther, Lake
Wolf, William S., Cook
Wolfarth, Alfred, Cook
Wolfe, Albyn, Morgan
Wolfe, Alfred S., Winnebago
Wolff, L. H., Lake
Wolin, Irving, Cook
Wollak, Charles, Will
Wolters, Simon L., Cook
Wones, Edward Martin Jr., Cook
Wood, George C., Clark
Wood, O. M., Fulton
Woodard, Lawrence E., Cook
Woodford, Hackley E., Christian
Woodworth, Philip R., DuPage
Woody, Howard G., Cook
Woolhandler, George, Cook
Woolhandler, Harry V., Effingham
Worden, Robert W., Cook
Wormley, G. W., Winnebago
Wright, Theodore S., Cook
Wrist, Maurice, Kankakee
Wrork, D. H., Winnebago
Wunsch, C. L., Kane
Wyness, John A., Sangamon

Xavier, Frank K., Cook

Yaeger, Harry A., Montgomery
Yaffe, Bernard, Cook
Yanowitz, Meyer, Cook
Yazarian, A. Y., Vermilion
Yeargin, C. E., Cook
Yellen, Harry J., Cook
Yesinick, Louis, Cook
Yolton, Leroy W., McLean
Yonker, William, Cook
Young, Henry M., Cook
Young, J. M., Henry
Young, L. C., Christian
Young, L. W., Wayne
Young, Richard Hale, Cook
Young, Samuel, Cook
Young, Tommy R., Wabash
Youngerman, W. M., Champaign

Zarcone, V. P., Macon
Zee, Maurice L., Cook
Zeiss, Fred R., Cook
Zelenik, John S., Lake
Zelezinski, Leo A., Cook
Zelik, William B., Logan
Zeman, Alvin A., Cook
Zeman, Erwin D., Effingham
Zeman, Theodore C., Cook
Zidek, Emil Richard, Cook
Ziegler, D. F., Winnebago
Ziffren, Sidney E., Rock Island
Zimmerman, Lazar E., McHenry
Zimmerman, Nathan, Cook
Zimring, Allan J., Cook
Zimring, William J., Cook
Zollett, Phillip B., Cook
Zolt, Nathan, Cook
Zurawski, Walter F., Cook
Zurfli, Clarence J., Cook
Zweig, Mitchell, Cook



News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

The December 11th meeting of the Greene County Medical Society was held in Roodhouse at the Elm Inn. The speaker was Doctor Arthur E. Walters of Springfield who spoke on "Eye and Ear Conditions of Interest to the General Practitioner" which was of practical value to all who heard it. The lecture called out many questions and a prolonged and profitable discussion. Doctor Walter Stevenson of Quincy, Councilor, was present and participated in the program.

The following officers were elected for the coming year: President, A. T. Robertson, M.D. of Roodhouse; Vice-President, D. R. Martin, M.D. of Carrollton; Secretary and Treasurer, W. H. Garrison, M.D.; Censon, C. O. Bulger, M.D. of Greenfield; Delegate, C. A. Billings, M.D. of Hillview to serve in the place of A. D. Wilson, M.D. who is now in the Armed Forces.

Bert E. Caldwell, for fifteen years executive secretary of the American Hospital Association, has resigned, effective on the appointment of a successor. Dr. Caldwell has also been editor of the association's publication "Hospitals" since its establishment seven years ago. Dr. Caldwell graduated at Barnes Medical College, St. Louis, in 1898.

COMING MEETINGS

January 12 — Effingham County — Benwood Hotel — 6:30 P.M.

January 12 — Williamson County — Herrin — Herrin Hospital — Evening

January 12 — Kankakee County — Kankakee — 12:00 noon

January 14 — Crawford, Jasper, Clark, Lawrence — Robinson — Woodworth Hotel — 6:30 P.M.

January 14 — Champaign County — Champaign — 6:30 P. M.

January 14 — LaSalle and Bureau Counties — Kaskaskia Hotel, LaSalle — 6:30 P.M.

January 19 — Peoria Medical Society — Peoria — Evening

January 20 — DuPage County — Elmhurst Community Hospital, Elmhurst — Evening —Alexander Brunschwig — Surgery

January 21 — Marion County — Centralia — Evening — St. Mary's Hospital

January 21 — Livingston

January 22 — Will-Grundy County — Joliet — Louis Joliet Hotel, Noon

January 27 — Christian County — Taylorville — Evening

January 29 — Will-Grundy County — Joliet —Louis Joliet Hotel — Noon

MARRIAGES

Raymond J. McGann, Mount Sterling, Illinois, to Miss Mary Agnes Gray of St. Joseph, Missouri, recently.

DEATHS

J. W. Edward Bitter, Quincy; University of Illinois College of Medicine, 1887. Practiced in Quincy for nearly 56 years. Died December 17, 1942 at the age of 79.

Frank Hamlin Blackmarr, Chicago; Hahnemann Medical College and Hospital, Chicago, 1897. Mem-

ber of the Radiological Society of North America, Inc.; on the staff of the Chicago Memorial Hospital; Died September 16, 1942 at the age of 71.

JOHN ERSKINE BURNS, New Dennison; St. Louis College of Physicians and Surgeons, 1902. Physician for 40 years for New Burnside and Creal Springs. Died December 23, 1942 at the age of 65 years.

ALAN D. CALHOUN of the Alton Clinic, Alton; Washington University School of Medicine, 1933. Member of the teaching staff of Washington University at Barnes Hospital. Fellow of the American Board of Ophtholmology. Died December 16, 1942 at the age of 35 years.

JOHN PHILIP GIBBS, Chicago; Harvey Medical College, 1905. Junior Medical staff, St. Elizabeth's Hospital. Died December 5, 1942 at the age of 80.

WILLIAM N. GOONE, Chicago; University of Illinois College of Medicine, 1912. Died of heart attack December 27, 1942 at the age of 55.

JAMES R. GREER, Danville; Rush Medical College, 1912. Assistant professor at Rush and assistant physician at the Presbyterian Hospital. Died December 2, 1942 at the age of 64.

CHARLES A. HANDLEY, Brocton; Louisville Medical College, 1894. Retired two years ago because of ill health. Died December 13, 1942 at the age of 74.

NATHAN J. HUGHES, Waverly; Cincinnati College of Medicine & Surgery, 1879. In 1929 was awarded a Fifty Year Pin by the Morgan County Medical Society. Died November 25, 1942 at the age of 88 years.

O. E. MATTER, Maywood; Chicago Homeopathic Medical College, 1896; University of Illinois College of Physicians and Surgeons, 1904. Died December 3, 1942 at the age of 70.

WILLIAM MARKLE MILLER, Cabery; Rush Medical College, 1884. Had practiced in Cabery 58 years. Was given the gold award by the Illinois Central Railroad for 50 years' service as railroad physician. Died December 14, 1942 at the age of 84.

JAMES T. MUSSELMAN, Paris; Louisville Medical College, 1879. Died December 17, 1942 at the age of 88.

NORMAN PEARSON, Pontiac; Northwestern University Medical School, 1901. Not in practice for some years. Died November 19, 1942 in Peoria at the age of 65 years.

ROSE READING, Chicago; Bennett College of Eclectic Medicine and Surgery, 1886. At one time examining physician of the Juvenile Court. Died December 22, 1942 at the age of 74.

ALEXANDER P. ROBERTSON, Alton; St. Louis University Medical School, 1913. Past president of Madison County Medical Society. Served overseas in World War No. 1 as First Lieutenant. Served as City Health Commissioner, and was director of the Social Hygiene Clinic for 17 years. Died suddenly of a heart attack on November 20, 1942 at the age of 52.

HARRY EUGENE TEASLEY, Robinson; Tulane University of Louisiana School of Medicine, 1928. Major in the Medical Corps and recently stationed in Memphis, Tennessee where he was taking special training. Died suddenly of a heart attack November 27, 1942 at the age of 40.

JOHN S. WALLNER, Chicago; Illinois Medical College, Chicago, 1904. Died November 5, 1942 at the age of 67.

JAMES L. WELLS, Chicago; Harvey Medical College, 1902. For many years on the staff of Englewood Hospital. Practiced on south side for nearly 45 years. Died December 14, 1942 at the age of 72 years.

JAMES A. WRIGHT, Morrison; Beaumont Hospital Medical College, St. Louis, 1887. Practiced in Morrison for about 25 years retiring a year ago. Died November 25, 1942 at the age of 84.

TELLS HOW A SURGEON REMOVED LIVE SHELL FROM MAN'S THIGH

The Regular London, England, Correspondent Of A. M. A. Journal Describes Hazardous Operation On An Air Raid Victim

The courage of a surgeon who removed a live shell from the thigh of a man during a recent air raid on London is described by the regular London correspondent of *The Journal of the American Medical Association* in the December 12 issue. The correspondent reports that:

"In a recent speech Dr. Donald Hall, chairman of the Royal County Hospital, told of a man brought to the hospital with a thigh injured during a recent air raid. Under the wound of entry a sharp pointed object could be felt. At the time of injury the enemy had dropped all their bombs and were headed home with their guns blazing. It was decided that the object therefore was not a bomb fragment and was thought possibly to be part of a fractured femur. X-ray examination, however, revealed that an unexploded cannon shell was embedded in the tissues. The bomb disposal unit was called and the officer identified the shell from the roentgenogram as of the armor piercing variety which explodes on impact. What was to be done? If

the shell exploded, at best the man would lose his leg, which would be shattered; very likely he would lose his life. If the shell exploded during the operation for its extraction, the surgeon and every one in the operating room ran great risks, especially for loss of eyesight. The removal was necessary, danger or no danger. The patient was left in blissful ignorance and the surgeon, his assistant, the anesthetist and the nurses got to work. Swiftly and successfully the surgeon performed the most delicate and dangerous operation of his career and removed the shell. Within half an hour of leaving the ward the patient was back in bed. The name of the surgeon was not revealed. During the operation, according to this report, an assistant surgeon appeared at the door of the operating room to inquire what were his prospects for promotion to the senior staff!"

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

RESOLUTIONS

Since our New Years resolutions are accepted institutions, I suppose I ought to make myself a few. It's a waste of time to make them, since I always promptly break them, yet I think I might perhaps keep one or two.

But I want resolves less wasteful and distinctly less distasteful than the resolutions I have heard or seen; where desires for work attack us, or we turn our backs on Bacchus, or divorce ourselves from Lady Nicotine.

So I think that my solution of the New Years resolution, is to laugh more at merry things each day. For my journey is more sunny, through this world that is so funny, when I let my sense of humor lead the way.

SEASONABLE SONNETS
JANUARY

We gaily start upon another year
In boisterous way with much of noise and song,
Then make fine resolutions which I fear
Are far too fragile to endure for long.
Outside in mountain ranges drifts the snow,
We slither as we drive upon the street,
Thermometers dejectedly sink low,
We shiver from our occiput to feet.
Yet this is when we play the best of golf
Or raise fine gardens, by an open fire,
By our imagination carried off—
Performance does not circumvent desire.
We stay indoors and moan when we must move—
The calendar is young, it should improve.

SNOW

The poets rave about the snow
In chaste white flakes from heaven falling,
Symbolic of all purity,
The joys of childhood days recalling.

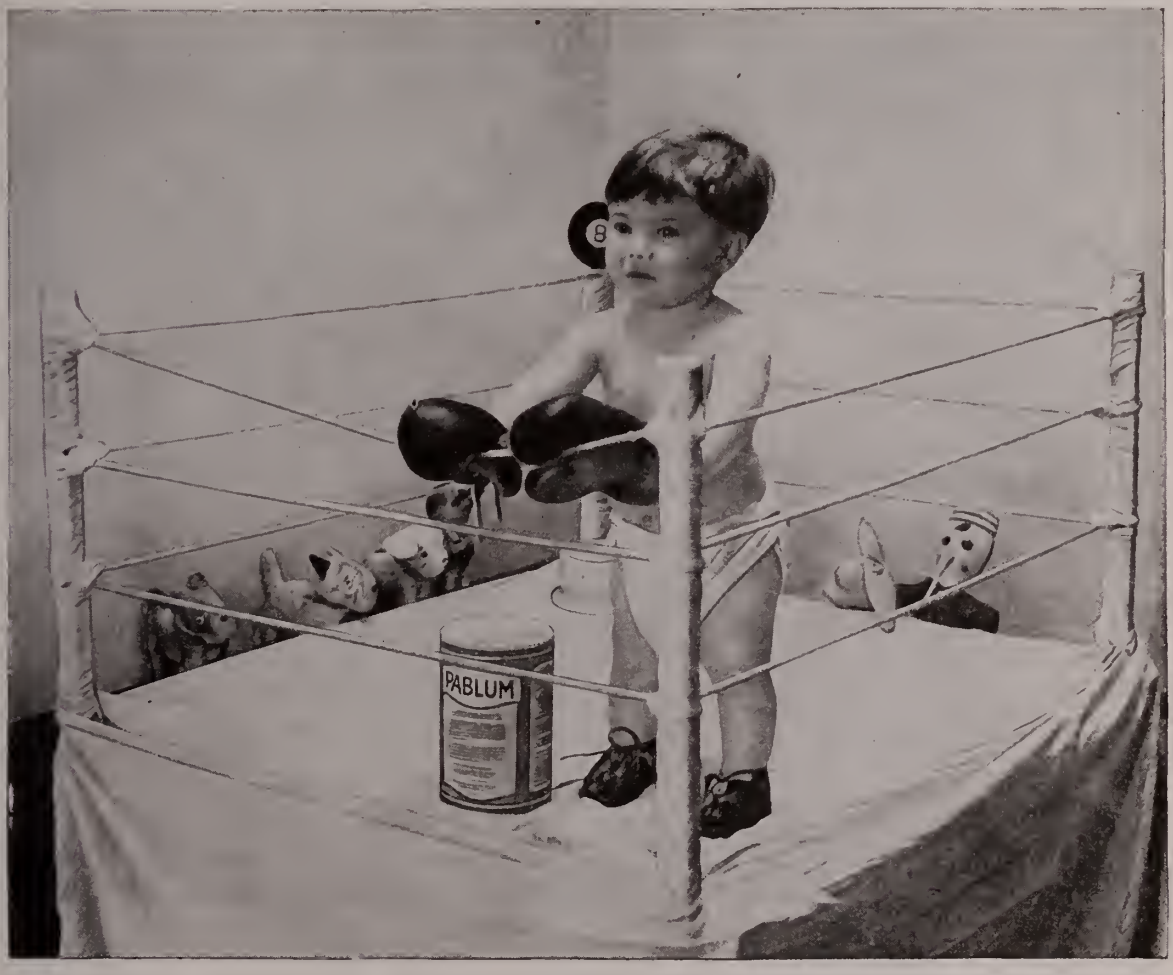
I also rave about the snow,
The poets point of view reversing,
For all I see in snow is grief
And vent my wrath in vicious cursing.

CHANGE

Our abode may change
And our work may change
And our pleasures change with the season;
Our pursuits may change
And our habits change
And our interest change for no reason.

Our religion may change
And our politics change
And our sins may change if we're clever;
And our health may change
AND OUR FRIENDS MAY CHANGE
But our enemies last forever.

Professor Paresis suggests that you never offer excuses, apologies nor explanations. Go ahead and get the job done and let who will complain.


PABLUM

Miscellany

WHAT TO DO AGAINST WAR GASES

The following information on war gases is supplied for general publication because of the possibility that they may at some time be used by the enemy. If people will remember a few simple facts, they will have no unreasonable fear of this agent.

I. War gases stay close to the ground, for they are heavier than air. To get out of a gassed area, simply walk against the wind or *go upstairs.*

II. Gas is irritating and annoying to the eyes, nose, lungs, or to the skin, but it is usually harmless if you do not become panicky but promptly leave the gas area and cleanse yourself. A soldier must put on a mask where it is necessary to remain in the contaminated area, but a civilian can go up on the second or third floor and literally ignore it if the windows are kept closed.

III. If the gas should get on your skin, you can prevent it from doing much harm by sponging it off as quickly as possible with a piece of clothing, such as a handkerchief, and applying some neutralizing substance, followed by a thorough bath, preferably a shower, with common laundry soap and water.

IV. If you are indoors, stay there with doors and windows closed, and go up to the second or third story. Stay out of basements. Turn off the air conditioning, and stop up fireplaces and any other large openings.

V. Some gases are spread as oily droplet which blister and burn the skin and eyes. If you are outside when gas is used do not look up. Tear off a piece of clothing or use a handkerchief to blot any drops of liquid from your skin and throw the contaminated cloth away. Blot: do not rub, as rubbing will spread the liquid. Then go home, if it is nearby, or to the nearest place where you can wash immediately with soap and water and cleanse yourself in the following manner:

1. Remove all outer clothing outside the house, since gas can be transmitted to others from contaminated clothing. Put it preferably in a covered garbage pail.

2. Apply one of the following effective household remedies to the part of your skin that has been contaminated: Chlorox or similar household bleach (for mustard); peroxide of hydrogen (for Lewisite); paste or solution of baking soda if you have no peroxide or bleach. If you do not know the gas, use both peroxide and bleach. Keep bleach and peroxide out of the eyes. *Do not waste time looking for these remedies;* bathe immediately if they are not at hand.

3. After entering the house, wash the bleach or peroxide from hands with laundry soap and water and then wash the face. Remove the underclothing, place it in a covered garbage pail, and enter the bathroom.

4. Irrigate the eyes with large amounts of lukewarm 2 percent solution of baking soda (one tablespoonful to a quart of water), or else with plain water. Use an ordinary irrigating douche bag or an eye irrigator. If you do not have these, let plain warm water pour into the eyes from the shower, washing them thoroughly. Do not press or rub the eyes.

5. Lastly, take a shower, using laundry soap and hot water.

6. If the nose and throat feel irritated, wash

(*Continued on page* 32)



INCONCLUSIVE symptomatology constantly challenges the physician's resources. If the patient smokes, a check-up on nicotine intake may be in order.* But this is a problem in itself, considering the reluctance of smokers to accept adjustments of tobacco usage.

Slow-burning Camel cigarettes provide an answer. They are the voluntary choice of millions and millions of smokers who appreciate distinctive mildness and mellow flavor, Camel's famous "pleasure factor." Your patient's enthusiastic acceptance of Camels will help to assure more reliable data for case histories, a big advantage when analyzing such cases by groups.

*J.A.M.A., 93:1110—October 12, 1929
Bruckner, H.—Die Biochemie des Tabaks, 1936
The Military Surgeon, Vol. 89, No. 1 p. 5, July, 1941

SEND FOR REPRINT of an important article on smoking from "The Military Surgeon," July, 1941. Write Camel Cigarettes, Medical Relations Division, 1 Pershing Square, New York City.

CAMEL

costlier tobaccos

WAR GASES (Continued)

them out also with baking soda solution.

7. If your chest feels heavy and oppressed, if you have any trouble breathing, or if cigarette smoke becomes distasteful lie down and stay perfectly still until a doctor sees you.

8. If blisters develop, be careful not to break them and call a doctor.

Remember:

Soldiers require gas masks because they must remain in the contaminated area. Civilians can get out of the gassed area or get above the level of the gas, where they do not need gas masks or protective clothing.

Injured persons, who are gassed, require decontamination before they can be admitted to hospitals. All other civilians can best prevent any serious injury by promptly helping themselves in the manner outlined, using a kitchen or bathroom, laundry soap and water, and a few materials found in every household. — Southern Medicine & Surgery, August 1942.

The Doctor — I believe doctors are as unselfish now as they were fifty years ago. The reason they may not always appear so is due to the fact that the practice of medicine is very expensive now compared to a period when doctors "read medicine," bought a book, a few instruments and were set up for life. The cost of living was so small until few people suffered from want. It was customary for doctors to respond to all calls and render treatment without presenting bills. Some doctors took pride in declaring that they were poor business men. Even now a few doctors take pride in stating that they never ask patients for money. This is not only unfair to their families and patients but it is also unjust to fellow practitioners. If you want to serve best your patients, your families and yourselves apply accepted standard business rules along with proper medical knowledge and kindness.

It is honest to admit that doctors used to do all the charity practice without aid, partly because it helped both doctors and their patients. Finally the simple way of living grew complex and want, hunger, disease and distress overcame so many of our people until doctors needed and received help from public funds and donations from both selfish and unselfish people.

It was perfectly natural for individuals to clamor for rights and privileges in the administration of these funds. Elbert Hubbard declared frankly in favor of salaried medicine years ago.

Changes in the practice of medicine have brought wonderful improvements for patients, doctors and nurses. Hospitals and public health with their many benefits come from public funds and private donations. The work of doctors is just as essential as funds and working tools. If progress continues the voices of workers must maintain influence and leadership. — *Redfearn, J. M. A. Georgia, July '42.*

VITAMIN FILMS IN COLOR

During the past year the three 16-mm. silent motion pictures in color, describing certain vitamin deficiency diseases, which were made available by Eli Lilly and Company, Indianapolis, for showing before medical groups under sponsorship of a physician, have been in continuous demand. One film deals with deficiency of thiamine chloride (beriberi), another with nicotinic acid deficiency (pellagra), and the third with ariboflavinosis. To meet increasingly frequent demands for the films, additional new prints have been placed in circulation and are now ready for loan. The major part of all films concerns the clinical picture presented by the patient with reference to treatment by diet and specific medication. They do not contain advertising of any description, nor is the name of Eli Lilly and Company mentioned.

The films were made at the Nutrition Clinic of the University of Cincinnati at the Hillman Hospital, Birmingham, Alabama, where studies were initiated in 1935, under the joint auspices of the Department of Internal Medicine of the University of Cincinnati and the University Hospitals of Cleveland. Subsequently, these investigations became a co-operative project between the Departments of Medicine of the University of Cincinnati and the University of Alabama, and the Department of Preventive Medicine and Public Health of the University of Texas.

INTRODUCING BENZEDRINE INHALER IN A NEW PLASTIC TUBE



More than a year before Pearl Harbor, we started to develop a substitute for the aluminum tube of Benzedrine Inhaler.

The successful result — our new plastic Benzedrine Inhaler—is now on the market. More than a wartime substitute, it is a definite improvement over the aluminum tube. Just as effective therapeutically, it is far more attractive in appearance and has only one cap to remove.

Each tube is packed with amphetamine, 250 mg.; oil of lavender, 75 mg.; menthol, 25 mg. Benzedrine is S. K. F.'s trademark, Reg. U. S. Pat. Off.

SMITH, KLINE & FRENCH LABORATORIES, PHILADELPHIA, PA.

SKF

More than a century of service to the medical profession

SAYS HEALTH AS WELL AS SAFETY PROGRAM IS NEEDED IN INDUSTRY

War Medicine Author Cites Role Of Fatigue And Physical Fitness In Work Capacity And The Cause Of Accidents

Pointing out that the physical manifestations of fatigue include ill health, R. R. Sayers, M. D., Director, Bureau of Mines, United States Department of Interior, Washington, D. C., declares in the current issue of *War Medicine* that "As ill health is associated frequently with accidents, a health program in industry would seem at least as important as the safety program that has been stressed so strongly in recent years."

He also points out the relationship between physical fitness and capacity for work and says that a solution of the problem of providing enough man power for our industrial and military purposes has been suggested by a physical training experiment in South Africa which led its investigators to recommend that physical training be compulsory.

War Medicine is published bimonthly by the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council.

"The connection between fatigue and health," Dr. Sayers explains, "is indicated by statistics on the occurrence of illness among workers of different types. Morbidity (sickness) and mortality statistics show that certain diseases occur more frequently in certain industries in which fatigue apparently is the main factor. The making of munitions and other industrial work required in wartime resulted in greatly increased death rates for tuberculosis in England during the World War. . . .

"Accidents in industries of the United States cause a loss of approximately 1,500,000,000 man hours of production each year. If the statement is true that illness causes fifteen to twenty times as many cases of absenteeism and about seven times as much loss of time from work as accidents, the seriousness of the health problem in industry is apparent. . . ."

In the introduction to his paper, Dr. Sayer points out that "Under compulsion of the present urgency to implement the President's promise to make the United States the arsenal for the democracies there is a tendency to demand a relaxation of restrictions on hours of labor and to speed up all industrial processes. The pressure is the more insistent with the growing realization of the importance of the time factor in the successful prosecution of the war effort and the lack of skilled workers due to operation of the draft, lack of an apprentice system in industry and loss of skill by workers unemployed for long periods during the depression. With 'total' war such as it is today the probabilities are that every one will be required to exert greater effort (in many instances in activities to which one is unaccustomed) for longer periods than ever before has been necessary. The question arises, 'What will be the after-effects, as well as the immediate effects, on health, safety and efficiency?' A review of the literature leaves the impression that this question has not been answered completely, especially as regards the long view.

"Mechanization, speeding up of industrial processes, mass production and the small industrial concerns present many problems to industrial medicine. Does the tendency to expect the worker to produce at full speed all the time he is on the job decrease the effectiveness of the shorter working hours and cause undue fatigue, loss of efficiency and increased proneness to accident? The answer is important, as this condition is likely to be intensified by the exigencies of the present emergency. . . ."

Summarizing his extensive review of the literature on fatigue, Dr. Sayers says that "Data on fatigue and health show the connection between fatigue and loss of working efficiency and increased accident occurrence, but there is little actual medical proof that long, fatiguing periods of work permanently affect efficiency, health or working capacity.

"So many physical and psychologic factors are connected with the whole subject of fatigue that a simple, direct definition is impossible. Perhaps from the physiologic standpoint of this paper the definition of fatigue as 'the sum of the results of activity which show themselves

(*Continued on page* 36)

FOR PROMPT AND EFFECTIVE RELIEF

OF DISTRESSING SYMPTOMS IN

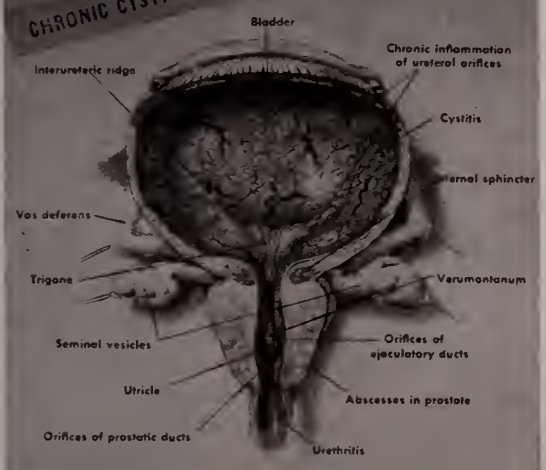
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Pyelonephritis
Prostatitis
Urethritis

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Phenylazo-alpha-alpha-diamino-pyridine mono-hydrochloride

CHRONIC CYSTITIS, PROSTATITIS, AND URETHRITIS



The criterion of efficacy adhered to in the recent clinical investigation by Reynolds, Wilkey, and Choy,* at the Cook County Hospital, Chicago, was as follows:

"To consider pyridium therapy effective, alleviation or complete absence of symptoms had to occur within seven days."

Response of symptoms to Pyridium therapy in the 183 cases of common urologic conditions studied in this series was as follows:

PAIN	47 Cases	68.2% Improved
BURNING	116 Cases	84.5% Improved
DYSURIA	38 Cases	47.0% Improved
FREQUENCY	99 Cases	54.5% Improved
URGENCY	17 Cases	59.0% Improved
HESITANCY	20 Cases	85.0% Improved
NOCTURIA	77 Cases	53.0% Improved
PYURIA	55 Cases	76.5% Improved
HEMATURIA	7 Cases	100% Improved

These results afford additional confirmation of the many published reports on the clinical efficacy of Pyridium in producing prompt symptomatic relief in common urogenital infections.

*Clinical Application and Results of Pyridium Therapy, Illinois M. J. 78: 544-547, Dec., 1940.

PYRIDIUM
REG. U. S. PAT. OFF.
(Phenylazo-alpha-alpha-diamino-pyridine mono-hydrochloride)

A decade of service in urogenital infections

For Victory—Buy War Savings Bonds and Stamps

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N. J.

HEALTH IN INDUSTRY (Continued)

in diminished capacity for work' is fairly satisfactory.

"The essential physical manifestation of fatigue is diminished capacity for continuing the fatiguing task. In its extreme manifestations it is indistinguishable from exhaustion and is accompanied by complete inability to perform the task.

"The essential psychologic manifestation of fatigue is an increasing disinclination to continue working, accompanied by certain more or less typical 'feeling states.'

"The causes of fatigue may be physical or psychologic. Apparently psychologic and environmental factors are far more important causes of fatigue than physiologic factors.

"Two types of fatigue are mentioned in the literature — one originating entirely within the central nervous system, the other arising partly in the nervous system and partly within the active muscles. The former is of common occurrence, whereas the latter occurs infrequently. Industrial fatigue usually is of the first type. Environmental conditions and relations with management and fellow workers are more important factors in fatigue than physical activity except in the 'heavy' industries that require hard physical labor. . . .

"Physical fatigue may be temporary, subacute or chronic. Temporary fatigue is a normal feeling of tiredness that passes away after a short rest and allows resumption of the original work without decrease in efficiency. Subacute fatigue may result from continued activity at the same intensity until energy reserves are depleted. This is a short term condition, but if allowed to continue unchecked, it ultimately will develop into a chronic condition. Chronic fatigue is the final stage of the series of events of which overwork is the first and is the beginning of a condition that may result in disabling illness.

"Fatigue may be local or general. Local fatigue affects particularly the muscles that have been employed most actively. General fatigue affects the whole body and frequently results from conditions of work, such as excessive hours, curtailed periods of rest and insanitary, uncomfortable or hazardous surroundings. . . .

"Chemical changes in muscle during contraction form certain substances that depress or inhibit the power of contraction. These fatigue substances consist of the known products of muscular metabolism. . . .

"The rate of oxygen consumption of the body during exercise varies almost directly with the amount of external work performed. A man's maximum working power is determined not only by the functional capacity of his skeletal muscles but by the supply of oxygen to the muscles, heart and brain (carried there by the blood). The supply of oxygen is the limiting factor. The total oxygen consumption during exercise is roughly proportionate to the mass of active muscles.

"Strenuous physical work or sport may lead to enlargement of the heart. The size of the heart of an animal reflects the amount of activity characteristic of its mode of life.

"Physical training reduces the pulse rate. At rest a trained or athletic subject has a higher minute volume than an untrained one. Training favors higher oxygen utilization and correspondingly lower minute volume for a given optimum consumption. Declining oxygen utilization indicates that the limitation of work capacity is being reached.

Without sound material, no architect, be he ever so skillful, can build a solid and beautiful temple. No more is it possible for social philosophy and statesmanship to construct model societies and governments without men for material possessed of sound minds and sound bodies.

It is needless to say that to secure these is the chosen and ceaseless mission of medicine. — *Trans. M. A. Alabama,* 1881.

RETURNS TO BRISTOL-MYERS

After having served for several months as consultant with the Office of the Coordinator of Inter-American Affairs, J. J. Clarey, Jr., Foreign Advertising Manager of Bristol-Myers Company, has returned to his duties with the company.

While he was on leave with the Office of the Coordinator, Mr. Clarey was engaged in assisting in negotiations of that office and the Office of War Information for the leasing of all broadcast time of United States short wave stations.



Adequate Nutrition

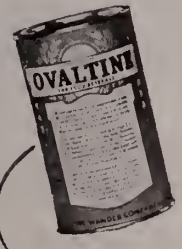
AN IMPORTANT FACTOR IN PREVENTIVE MEDICINE

That optimum nutrition is fully as important as adequate public health measures in the prevention of under-par health and morbidity, is now recognized by all authorities; also, that the promotion of good nutrition demands the satisfaction of all the essential nutritional requirements, and not merely an isolated few.

The balanced composition of New Improved Ovaltine gives this delicious food drink wide applicability in the prevention and correction of nutritional insufficiency. Rich not only in vitamins but also in virtually all other essential nutrients, Ovaltine complements the average diet to bring the intake of nutritional essentials to the optimum level. No resistance by the patient—young or old—is encountered when Ovaltine is prescribed; its delicious taste assures patient co-operation. Physicians are invited to send for samples. The Wander Co., 360 North Michigan Avenue, Chicago, Illinois.

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FLAVORED

NEW IMPROVED
Ovaltine



Three daily servings (1½oz.) of New Improved Ovaltine provide:

	Dry Ovaltine	Ovaltine with milk*
PROTEIN	6.00 Gm.	31.20 Gm.
CARBOHYDRATE	30.00 Gm.	66.00 Gm.
FAT	3.15 Gm.	31.95 Gm.
CALCIUM	0.25 Gm.	1.05 Gm.
PHOSPHORUS	0.25 Gm.	0.903 Gm.
IRON	10.5 mg.	11.9 mg.
COPPER	0.5 mg.	0.5 mg.
VITAMIN A	1500 U.S.P.U.	2953 U.S.P.U.
VITAMIN D	405 U.S.P.U.	432 U.S.P.U.
VITAMIN B_1	300 U.S.P.U.	432 U.S.P.U.
RIBOFLAVIN	0.25 mg.	1.28 mg.

*Each serving made with 8 oz. milk; based on average reported values for milk.

CITRIC ACID IN BONE

A knowledge of the chemistry of tissues aids in the understanding and interpretation of the physiologic reactions and processes in which body substances participate. In certain instances the presence of a chemical compound is established preciated. Indeed, information is still lacking many years before its biologic significance is apconcerning the part played by some body components in metabolic transformations. One of the latter group of substances is citric acid, whose presence in the animal organism has been known since 1888, when it was first isolated from cow's milk. Some forty years later citric acid was isolated from normal human urine, and this organic acid has since been shown to occur in relatively low concentrations in various tissues of the body. The concentration of citric acid in soft tissues has been reported as falling in the range of 0.1 to 2.0 mg. per hundred grams of tissue, whereas the acid is present in considerably greater amounts in body fluids (20 to 200 mg. per hundred cubic centimeters of fluid).[1] Recently, Dickens,[2] in the course of an investigation of the citric acid content of tumor tissue, found that the hard substance of bone constitutes a heretofore unsuspected store of citric acid which may amount to some 70 per cent of that contained in the whole body. On a dry, fat and protein free basis bone was shown to contain over 1 per cent of citric acid. The analytic data were confirmed by actual isolation in 80 per cent of the yield calculated from analysis. Variations in the citrate content of bone, probably due to endocrine and dietary factors, are also reported. The variations in citric acid content of bone greatly exceeded those of the other bone constituents, suggesting that the citrate is in a readily available form in vivo. However, in vitro the organic acid could not be readily extracted from dried powdered bone by water, alcohol or ether. The fact that so large a quantity of a familiar substance has heretofore escaped detection by bone analysis is surprising, but most accurate and complete analyses have been made on bone ash; thus the citrate would presumably appear in the carbonate fraction. The nature of the organic combination of bone cations has long been an almost uninvestigated field, and a systematic study of bone for the presence of other physiologically important organic acids would now appear indicated. It may be tentatively assumed that the citrate may be present in simple or complex combination with calcium, although the nature of the distribution of citric acid in bone, and its possible roles in structural and metabolic functions in this tissue, are important problems for future investigations.

J.A.M.A. Sept. 19, '42.

1. Smith, A. H., and Orten, J. M.: J. Nutrition 13:601 (June) 1937.

2. Dickens, Frank: Biochem. J. 35:1011 (Sept.) 1941. J.A.M.A. September 19, 1942.

SAYS STUTTERING HAS BEEN DESCRIBED AS DEVICE TO PREVENT STUTTERING

Stuttering has been described as a device to prevent stuttering, Gertrude E. Chittenden, Iowa City, points out in *Hygeia, The Health Magazine* for January. "This definition may seem paradoxical at first," she says. "The stutterer does not really stutter on a word; he stutters before he comes to it. That is, his stuttering is an attempt to keep from having to say a word that he is afraid to start. He is stalling. He fills in this period of stalling with repeated syllables, much as you and I use the prolonged 'a-a-and-uh' device when we are groping for the next word. The straining and the repetitions are reactions by means of which the stutterer tries to avoid saying the next word.

"You probably would have a hard time getting a stutterer to admit this. He would insist that he is trying his best to say a word, not to avoid saying it. However, objective evidence points in the other direction. . . ."

Miss Chittenden explains that a fear of words can be built up if the speaker has at some time or other noticed a reaction of listeners to his speech that has made him self conscious about talking.

"Often the parents who are concerned about their children's speech are parents who set up high standards in general for their children," she observes. "Perhaps lowering some of these standards would relieve the child of much emotional strain. Of course the general physical well-being of the stutterer should be checked, and any physical defects should be remedied if possible. . . ."

LIQUID BULK UP 34% WITH SAL HEPATICA SOLUTION



SAL HEPATICA has steadily gained in popularity with the profession as a reliable relief in constipation. There is no more effective way of flushing waste from the intestinal tract than by the use of the *liquid bulk* which Sal Hepatica solutions provide . . . for gentle, prompt and thorough laxation.

New and striking experimentation backs known facts on the ability of Sal Hepatica to introduce *liquid bulk* into the bowel. When Sal Hepatica, in laxative solution, was placed in the isolated ileum of a dog, there was a gain of 34% in liquid volume after the loop remained in the peritoneal cavity for one hour.

Sal Hepatica's *liquid bulk* helps stimulate peristaltic muscles, and aids in maintenance of a proper alimentary water balance. And the salines of Sal Hepatica serve to help neutralize excess gastric acidity, besides promoting bile flow. Send for literature on palatably effervescent Sal Hepatica.

Volume of Sal Hepatica solution (laxative strength) went up 34% after one hour in ileal loop of dog. Cathartic solution gained 204% volume in same test.

SAL HEPATICA



SUPPLIES LIQUID BULK TO FLUSH THE INTESTINAL TRACT

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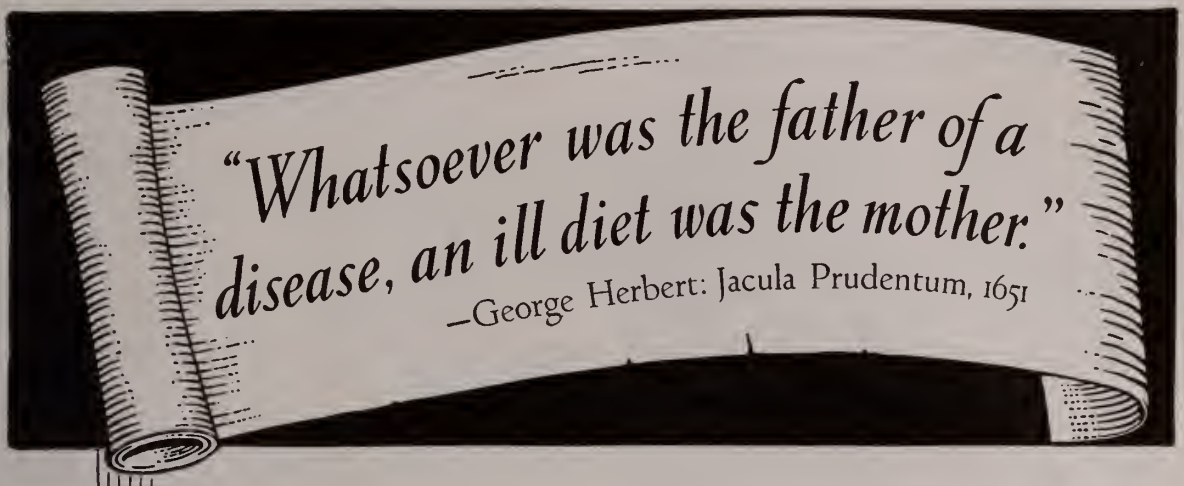
POINTS TO SCIENTIFIC PROCEDURE IN UTILIZING MEDICAL MANPOWER

Journal Says Physicians' Contributions To Procurement And Assignment Service And Other War Work Not Fully Appreciated

"If there is any one phase of the manpower problem that has been handled from the first with something resembling scientific procedure, it is the utilization of the medical profession," *The Journal of the American Medical Association* declares in an editorial in its December 19 issue. "We have always had a reasonably exact inventory of our medical assets. That inventory was made exact before Pearl Harbor. By the President's order a scientifically minded agency was established to distribute these assets properly among Army, Navy, industry and the civilian population. They recognized the need of the armed forces for a definite number of young, well qualified men. They recognized the desirability that industry be supplied with physicians trained in industrial medicine. They realized, indeed, that an expanded, speeded up industry would require more men than were available and secured the cooperation of all volunteer medical agencies in attaining that objective by training additional men. They established a quota for the present of one physician to fifteen hundred civilian population, although we could go on to one to three thousand in many areas without touching prewar levels in those areas. They have realized the need for meeting new demands such as those that prevail in new industrial and munitions areas. For example, only as recently as December 6 the Federation of State Medical Boards of the United States recommended that temporary licenses be provided for the duration of the emergency so that qualified physicians licensed outside the states which now require additional personnel may be brought in to serve the new centers of population. Relocation of physicians to meet new needs is already under way; it should soon be wholly efficient.

"The directing board of the Procurement and Assignment Service is doing its utmost to assure the maintenance of a continuing supply of physicians of a standard equal to that supplied in the past — and that has been the highest of any nation in the world. More than twenty-eight thousand physicians volunteered and gave their services without fee of any kind to the Selective Service Boards. More than forty thousand physicians gave up their careers in civilian medical practice to serve with the armed forces. The directing board of the Procurement and Assignment Service for Physicians, its corps area representatives, its consultant committees, its state and county representatives, some hundreds in all, serve without one cent of remuneration. The hundreds of physicians on the consultant committees of the Division of Medical Sciences of the National Research Council and on the Office of Scientific Research and Development serve day after day at considerable sacrifice of time and income without one cent of remuneration. Throughout the nation thousands of doctors give of their time and effort in the agencies devoted to civilian defense, certifying the young and the old and the sick and disabled for extra fuel, gasoline and rationing of foods, and this service too without remuneration. Can any other profession or trade match this remarkable record of self sacrifice?

"Yet they have not had even the appreciation that is their due. Just recently the *Saturday Evening Post* carried a half baked, incompetent, incomplete article on the shortage of doctors, apparently exalting the manner in which Great Britain has handled the problem. Neither the British nor the American situations are presented adequately. The press has carried the news of the attempts that have been made to toss the utilization of American medicine for the emergency into the arena of political football. Striving for political advantages, assaults have been made publicly on the motives, even the integrity, of the Procurement and Assignment Service and of the physicians who participate in its efforts. Fortunately for the American people, those efforts seem now to have failed. Serene in the confidence of the humanitarian, idealistic unselfishness of their work, they go forward even now planning scientifically to maintain for the armed forces and the people of America during 1943 and even during 1944 and 1945, if that should be necessary, a maximum personnel of high quality in the field of medicine, assuring to the people the best that medical science has achieved to keep them free from the fears of sickness, pain, disease and death."



AS LONG ago as three hundred years, the importance of nutrition in maintaining health was acknowledged.

Today's physician still finds vitamin deficiency a common complication in disease conditions. In infectious diseases, gastrointestinal dysfunctions, urologic and neurologic disturbances, multiple vitamin deficiency may be a predisposing factor or a resultant effect.

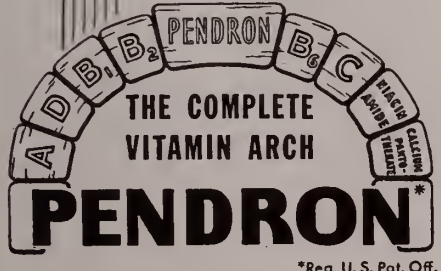
Therapeutically potent, clinically convenient for the prophylaxis and treatment of multiple vitamin deficiencies

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provides the physician with a means of prescribing *all* eight known essential vitamins in amounts recognized by the medical profession and governmental agencies as the minimum daily requirement for optimum nutrition.

Each capsule of PENDRON contains:

Vitamin A (Fish Liver Oil)	4000 U.S.P. Units
Vitamin D (Activated Ergosterol-Whittier Process)	1000 U.S.P. Units
Vitamin B_1 (Thiamine Hydrochloride) 333 U.S.P. Units	1 milligram
Vitamin B_2 (Riboflavin, Vitamin G) 800 S-B Units	2 milligrams
Vitamin B_6 (Pyridoxine Hydrochloride)	1 milligram
Vitamin C (Ascorbic Acid) 600 U.S.P. Units	30 milligrams
Niacin Amide (Nicotinamide, Pellagra-Preventive Factor)	20 milligrams
Pantothenate Calcium (Filtrate Factor)	1 milligram



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Available in bottles of 30 capsules—full month's supply. Prophylactic dose—one capsule daily.

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SUGGESTS EXTERMINATION OF RATS AS PART OF WAR HEALTH PROGRAM

Navy Officer Points Out In Hygeia Article That The Rodents Are Potential Carriers Of At Least Seven Deadly Diseases

The effort to maintain the best possible health among the population during the present emergency should certainly include an attempt to rid the country of rats, the potential carriers of at least seven deadly diseases, Samuel F. Harby, Lieutenant, U. S. N. R., Arlington, Va., declares in *Hygeia, The Health Magazine* for January.

"Every rat eats about $2 worth of food a year," he points out, "which means an annual board bill — in this country alone — of more than $260,000,000. Rats destroy at least ten times as much as they eat; in total destruction, they cost the United States well over two billion dollars a year. They carry diseases . . . including plague and typhus fever. This is the most serious menace of rat to man. . . .

"We have been successful in keeping plague out of this country — so far as human beings are concerned, but there are millions of wild rodents in the western part of the United States afflicted with the disease and constituting a threat to the entire nation. Fortunately, the rats which share our dwelling have not yet been affected; the disease is confined to squirrels, chipmunks, gophers and other outdoor rodents with which we have only occasional contact. We must be sure this condition remains unchanged, for once plague reaches the rat population, it will spread to man — unless we can expel these unwelcome guests from our homes, and keep them out!

"There have been only 15 human cases of plague in this country in the last five years. But the situation is still fraught with danger, since the disease could spread from wild rodents to the rat population at any time and thus be transmitted to man. For all practical purposes, plague control is equivalent to rat control. . . ."

Since the rat has become almost entirely dependent on man for the necessities of life, it has developed characteristics which are amazingly human, Lieutenant Harby observes. "Like man," he explains, "the rat is practically omnivorous and, like man, devours its own kind under stress. . . . It hybridizes easily and develops social and racial prejudices against this practice. Its sex proportions are much like ours; if we regard one year in a rat's life as equal to thirty years in man's, its schedule for gaining and losing fertility follows ours almost exactly. The rat adapts itself to all kinds of climates. . . . It makes ferocious war on its own kind, fighting individually for the most part but knowing how to band together in hordes when help is needed. . . ."

The most effective weapon for rat control is rat proof construction of buildings in which men live, work and store food, the author says. The enclosed spaces under floors or stairs and between walls in which rats hide and nest should be eliminated under modern methods of construction. Failure to repair breaks in walls, windows or door sills may make convenient openings through which rats will enter. Failure to use rat-proof materials, such at metal, concrete, stone, bricks or plaster, in buildings in which food is stored will attract rats. Open garbage cans entice rats.

"Rats . . . will live in any building or any place that provides harborage — even in fine, new homes," Lieutenant Harby maintains. "The best way to insure proper construction is to place rat-proofing requirements in building codes. Of course, once these measures are established they must be enforced; this means periodic inspections and severe penalties for noncompliance. . . . Proper construction of new buildings will take care of the future, or the prevention, but what about the old buildings and the present nuisance? It would be drastic treatment to go out and tear down all buildings which had been improperly constructed, yet such buildings have to be made rat proof. It is a costly job, but it is cheaper than harboring rats. From the point of view of public welfare, it would be poor economy to leave these buildings unprotected, even if the entire community had to share the expense of repairs."

In the Confucius style: Salesman who cover seat of office chair, instead of territory, stay on bottom.

— Richard C. Borden, of The Borden Co.

BRITISH MEDICAL PROFESSION OPPOSED TO TOTAL STATE MEDICAL SERVICE

A recent action by the British Medical Association indicates an overwhelming opposition of the British Medical profession to a comprehensive state medical service, *The Journal of the American Medical Association* declares in its December 19 issue. *The Journal* says:

"Further light on the attitude of the British Medical Association to the now famous Interim Report of the Medical Planning Commission is given by the votes on two resolutions that were brought up in the discussion of this report at the annual representative meeting of the British Medical Association. A motion with regard to medical service 'that provision, of whatever character, should be made by the government for the whole community' was, after considerable discussion, adopted by the very close vote of 94 for and 92 against. The effect of this was also immediately modified by the adoption of a 'rider' providing that 'the patient should have the right to contract out and the doctor the right to charge fees for attendance to patients not on his list.' A motion 'that the basis for the coordination and integration of health services should be the establishment of a whole time salaried government service' was defeated by a vote of 20 to 177. This would apparently indicate an overwhelming opposition of the medical profession to a comprehensive state medical service."

SAYS COLOR BLINDNESS IS CONGENITAL

"Color blindness is a congenital [existing at or before birth] defect and in the true sense of the term is never acquired," *The Journal of the American Medical Association* for November 28 says in answer to an inquiry. "Extraneous conditions . . . have no influence on the color perception, which may vary from complete absence of color recognition to mere inability to differentiate various shades. There is no known correction for this condition despite the claims of some optometrists."

HAVE YOU PATIENTS

With Any Of These Conditions?



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USE ALBUMIN FROM BLOOD PLASMA AS SUBSTITUTE IN TRANSFUSIONS

A. M. A. Journal Says It Provides New Method For Effectively Combating Shock Resulting From Injuries, Hemorrhage And Burns

The discovery that the albumin contained in human plasma (the liquid portion of the blood) can be injected or transfused in a more highly concentrated form than the whole plasma is said by *The Journal of the American Association* in its November 28 issue to provide a new method of great effectiveness for combating shock from injuries, hemorrhage and burns.

The new method is particularly important because it greatly facilitates transfusions to the wounded on the field of battle, thus helping to reduce the mortality rate from shock. According to a recent statement of the surgeon general of the Navy, this was demonstrated a short time ago in battles in the South Pacific. One fifth as much human serum albumin is required for a transfusion as is needed when the entire plasma is used, 100 cc. of albumin in solution being equivalent to approximately 500 cc. of plasma. This not only facilitates shipping and storage but also administration.

The new method resulted from research projects sponsored by the Bureau of Medicine and Surgery of the Navy Department. Three reports on the investigations are contained in the October issue of the *U. S. Naval Medical Bulletin.*

Commenting on these three reports *The Journal* explains that "albumin makes up about 62 per cent of the total protein of human plasma and is chemically the most soluble and most stable of the plasma proteins."

The Journal says that one of the reports presents evidence that human albumin is safe and effective under clinical conditions, based on the effects noted in 200 instances in which it was given.

The types of cases treated were classified as shock due to trauma or injury, hemorrhage, operation and infection, early and late burns and other conditions.

"The administration of human serum albumin," *The Journal* says, "may be considered an established procedure on the basis of this work and the work which has preceded it."

One of the other reports, *The Journal* explains, "describes the standard Army-Navy package of human serum albumin (concentrated). For this purpose a 'unit' of human serum albumin is defined as 25 Gm. This is . . . equivalent to approximately 500 cc. of citrated plasma. In the standard package the 25 Gm. is dissolved in 100 cc. of a specially prepared solution in which concentration it is stable for tempera-

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tures up to 50 C. The solution is contained in a double ended glass ampule, rubber stoppered at each end. Each ampule together with the apparatus for its administration is enclosed in a metal can. Three of these cans, containing the . . . equivalent of 1,500 cc. of citrated plasma, are packaged in a fiber board box."

The Journal says that because of this and previous work a new method of great effectiveness has been made available for combating shock on the field of battle and that "furthermore, this series of investigations may be recognized as a demonstration of cooperative research at its best."

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ILLINOIS HEALTH MESSENGER

Lower Death Tolls in State During First 6 Months, 1942

Preliminary statistics indicate that during the first six months of 1942 there were in Illinois 22,166 more live babies born than there were deaths reported. The population increase suggested by this finding is almost half again as large as that figured on the same basis for the first half of last year, when the excess of births over deaths in the State was 15,140 for the six months. In other words, there were 405 fewer deaths reported in Illinois from January 1 to June 30, 1942, and 6,621 more live births registered, than during the comparable period in 1941.

While the improvement in death statistics did not, unfortunately, extend to deaths from *all* preventable diseases, the favorable general trend is especially gratifying in view of the fact that it was achieved during the very time that war industries, population shifts, and the sanitation problems of congested defense areas might have been expected to take their first toll.

Despite the overcrowding of hospitals and the increase in the birth rate, the number of deaths among women in Illinois ascribed to causes associated with the reproductive function was brought down from 167 in the first six months of 1941 to 151 for the same months this year. This means that the maternal mortality rate was down to 2.3 per 1,000 births, the lowest on record for any first half-year in the State. And, although there was a little increase in the number of stillbirths and the number of infant deaths, the *rate* of stillbirths and of infant deaths was actually slightly *lower,* in proportion to the number of reported live births, in the 1942 period than in the first half of the preceding year.

Of special interest also is the decrease in the number of deaths ascribed to pneumonia. This number, which had already reached an all-time low for the State in the calendar year 1941, was reduced during the first six months of 1942, al-



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most 10 per cent below the total for the same period of the record-breaking year. Although physicians had reported fewer cases of this disease up to June 30 this year than last, the continuing improvement in pneumonia mortality must be considered as striking testimony to the efficacy of the new treatment with anti-pneumococcic sera and the sulfa-drugs, both of which are distributed without charge by the Illinois Department of Public Health for the treatment of pneumonia patients.

Appendicitis, another disease which had claimed fewer lives in Illinois in 1941 than in any earlier year of reliable record, was held responsible for only 266 deaths up to the half-year mark this year, compared with 404 in the same period last year, a decline of close to 35 per cent. Credit for this remarkable improvement should doubtless go largely to the educational campaigns of medical and public health agencies, for the main stumbling block in the successful management of cases of appendicitis in the past has been the delay on the part of the patient to call for prompt medical attention and to submit to surgery.

Striking also was the decrease in mortality from diarrhea and enteritis among babies under two years of age, with 66 deaths in the first half of this year as against 87 in that period of 1941, a reduction of 25 per cent. Progress in the care and feeding of babies, and in sanitation, is thus evidenced.

The decline in measles deaths shown in the accompanying table reflects primarily the fact that 1942 has been a year of low measles incidence, whereas the disease reached epidemic proportions last year. However, it should be mentioned that measles is rarely fatal if adequate nursing care is provided under medical supervision.

About half of the reduction in deaths from accidents for the period, as between the two years, is accounted for by the not unexpected drop in the number of fatal *automobile* accidents.

Most significant among the increases in deaths

(*Continued on page* 48)

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LOWER DEATH ROLLS (Continued)

shown by the table are those ascribed to diabetes, whooping cough, diphtheria, and malaria.

The Illinois death rate from diabetes reached its highest recorded point, 33.3 per 100,000 inhabitants, in 1940, and then fell to 28.9 last year. Not since 1925 has it been below 20, and the number of deaths ascribed to this cause annually in the State has almost doubled in the last seventeen years. Although the disease is not contagious, its rising importance as a cause of death makes it distinctly a public health problem, particularly in view of the fact that medical science has means at hand by which diabetic patients may outwit the disease, living with it to a ripe old age until they finally succumb to some other ill.

Whooping cough, many cases of which could be prevented or modified by vaccination, had its lowest death rate in Illinois in 1940, when 65 deaths were attributed to this cause. In 1941 the number rose to 90, with 39 of the deaths occurring in the first six months of that year, a number which increased to 49 in the first half of this year.

Diphtheria, also a preventable disease, was held responsible for 31 deaths in the 1942 period, or 19 per cent more than in the 1941 period.

Malaria, the control of which is chiefly a problem of sanitation, claimed nine lives in Illinois during the first half of this year, five more than it did during the first half of last year.

Any community wishing to cut down its death rate from such causes would do well to consider the possibility of developing a fulltime official local public health department.

PHYSICIAN ADVISES THERE IS NO PERMANENT CURE FOR PSORIASIS

With Proper Treatment, However, Much Can Be Done To Clear Up The Skin Disease For Long Intervals Of Time, He Says

There is no permanent cure for psoriasis, one of the most common diseases of the skin, but much can be done to clear up the disease for long intervals of time when proper treatment is administered, Maurice J. Costello, M.D., New York, declares in *Hygeia, The Health Magazine* for December.

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BUY MORE WAR BONDS IN 1943

Psoriasis is a chronic, inflammatory disease of the skin characterized by sharply outlined bright red spots covered with dry, silvery scales. When the scales are removed a red, glistening surface is exposed, revealing fine, bleeding points. It is most frequently seen in adolescents and young, healthy adults, Dr. Costello says, and it constitutes about 5 per cent of all the cases seen in dermatologic practice. Psoriasis is not infectious or contagious but does seem to be hereditary or familial.

"The eruption of psoriasis causes no constitutional symptoms or local discomfort," the physician explains, "but it greatly disturbs the peace of mind of the person suffering from it. As a rule it does not itch, although in rare instances itching is an annoying symptom. The great majority of psoriatic patients are healthy people who do not suffer from other diseases. . . .

"In some cases, psoriasis may run a continuous course from the appearance of the first lesion. In the majority of patients there are flare-ups and remissions, which are influenced by climatic conditions, the eruption being much less in evidence in the summer months and in warm, humid regions where there is an abundance of sunshine. Other factors which influence the disease unfavorably are excessive physical and mental strain tending to lower the general nervous tone of the patient. Psoriasis is a capricious disease, which often becomes ameliorated without apparent cause. This accounts for the many so-called 'sure cures' which are advertised in newspapers and magazines. Pregnancy and diseases accompanied by continuous high fever have a favorable effect on psoriasis; the eruption frequently disappears completely under these conditions. In general, however, it is a chronic, relapsing, recurring disease in which the term 'cured' can never be applied with certainty. . . . The specific cause of psoriasis is unknown. . . . Perhaps the most plausible theory advanced to date is that psoriasis is a disease resulting from a disorder of metabolism [processes by which life is produced and maintained] in which there is an inability to assimilate properly the protein or fatty foods.

"The type of treatment used [for this disease] depends on whether the disease is acute and spreading or chronic and stationary. In the acute type, bathing with mild soap and water

(*Continued on page* 50)

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PSORIASIS (Continued)

and the application of mild ointments are indicated. In the chronic type, more intensive treatment is necessary to rid the patient of the eruptions: daily baths with soap and water should be followed by removal of the scales with a soft bristled toothbrush or clothespin covered with gauze. The drugs most frequently used for this purpose should never be used by the patient unless they are prescribed by his physician, who will outline the proper method of application and the necessity for precaution.

"Natural sunlight, particularly when combined with salt water bathing, is the most pleasant and convenient and one of the best forms of treatment for chronic generalized psoriasis. . . . X-ray treatment is also effective in some cases and obviates the necessity of using ointments on the scalp and other parts of the body. However, it should be used sparingly and judiciously in psoriasis and then only by a qualified physician."

CIVILIAN MEDICAL CARE IN WAR TIME

Just as it is the duty and privilege of able-bodied male physicians of military age to make their services available to the Armed Forces, it is the patriotic duty of other citizens in civilian life to conserve the time of the physicians remaining in their communities. This may be done, for example:

(1) By arranging at once for individual medical protection against such preventable diseases as diphtheria, smallpox, and typhoid fever;

(2) By developing fulltime modern local public health organizations designed to promote the good health of the people and to give the communities continuous protection against preventable disease outbreaks;

(3) By seeking medical care in the doctors' offices (rather than in the patients' homes) wherever this may safely be done;

(4) By providing community-wide visiting-nurse services;

(5) By making full use of available hospital facilities for the care of patients from rural areas; and

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(6) By augmenting the existing hospital facilities through the expansion of their bed-capacities where possible and through the establishment of auxiliary convalescent homes.

Although there is evidence at the moment of a local shortage of physicians in one and another given Illinois community, no shortage of physicians in the State, as a whole, has yet been conclusively demonstrated. Where acute shortages are felt, the immediate problem is apparently due to an uneven distribution of the State's remaining civilian physicians. If a plan could be worked out to spread these doctors' services throughout Illinois in equitable ratio to the population, such an arrangement might be expected to meet the State's civilian medical needs as they are at present. Dr. Harold M. Camp, Illinois Chairman of the Procurement and Assignment Service, at Monmouth, has accordingly initiated a program intended to aid in distributing the supply of physicians more equitably, and has invited Illinois physicians who are willing to be relocated to submit the necessary information to him.

This undertaking has a distinct and vital bearing on the progress of the war effort. It is obvious that without adequate medical care a defense area would necessarily suffer unusual losses of time from production. In addition to this it must be borne in mind that fast-growing industrial communities run more than the average risk of communicable disease outbreaks, because of their problems of overcrowding, poor housing, and overstrained sanitation facilities. The psychological hazard of living without recourse to adequate medical care in such a community would inevitably tend to lower civilian morale. What is doubtless even more important, the social insecurity that would be caused by any serious shortage of physicians in civilian defense areas would just as surely affect the morale of the Armed Forces as would the loss of time from industry affect the production of equipment and supplies for the Armed Forces.

Those residents of Illinois whose family physicians have entered military service may be assured that all these facts are well known to State and Federal officers, and that the whole problem is receiving careful consideration by

(*Continued on page* 53)

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both military and civilian authorities. Meanwhile, physicians still out of uniform are urged, wherever practicable, to participate in the present civilian program of the Illinois Procurement and Assignment Service; and other citizens are urged to put into practice the foregoing recommendations as to conserving the time of their doctors.

Illinois Health Messenger

COMPETITIVE BIDDING FOR INTERNS

"Progress in medical education has been so rapid and so complex that one or more years of internship is uniformly considered essential to complete the preparation of the graduate in medicine for medical practice," *The Journal of the American Medical Association* for December 5 says. "The internships available for the continued education of medical graduates vary greatly in their quality. This, of course, makes necessary the comprehensive study of educational services in the hospitals of this country and the establishment of a list of approved internships by the Council on Medical Education and Hospitals of the American Medical Association. In the past fifteen years the number of available internships has advanced far beyond the annual needs of the graduating classes. This excess has partly been compensated for by the desire of some graduates to take more than one internship before beginning medical practice and by an increase in the period of intern training in some hospitals. As a war measure internship in hospitals of the United States does not now exceed one year, since medical school graduates are allowed only twelve months after graduation in which to complete their training before military service. Furthermore, the number of residents has necessarily been reduced to a minimum — by at least one half. Finally, hospital staffs have also been greatly curtailed by entrance of physicians in the military services.

"These developments have increased the demands for interns by hospitals and in some instances competitive bidding has extended to unwarranted salary levels. Frequently such salaries or honorariums are offered by hospitals whose educational program in itself appears to be inadequate to attract a sufficient number of interns. Competition for interns with the proffering of extraordinary salaries is not a new occurrence but has been intensified by the present emergency. Heretofore medical school graduates have recognized the internship as an integral part of their educational program. They have tended to seek internship for the educational opportunities rather than for the financial returns. Fortunately the great majority of interns have always been interested primarily in educational merits and have looked askance at internships offering salaries beyond the ordinary allowance for incidental expenses.

"Competitive bidding can be reduced to some extent if all hospitals will cooperate in maintaining a uniform and equitable distribution of interns in relation to clinical and educational needs. A hospital should not appoint an excessive number of interns to compensate for the loss of residents and other staff physicians. As a general rule the ratio of house officers to patients should not exceed one intern to six hundred annual admissions. Abuse of the use of interns by selfseeking administrators of hospitals might attract the attention of military authorities and lead to an attack on the policy of deferment which now makes interns available."

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Along with venereal disease control activities, and maternal and child health promotion campaigns, the broad problem of continuous adult-health-protection in industry ranks as a major wartime concern of public health workers throughout the State and Nation. The importance of this phase of the work is borne home quickly by the two wartime health slogans of the Illinois Department of Public Health:

"Production through Health," — "Keep 'Em Working."

In recognition of the ever-growing need for continuous emphasis on public health protection among war workers, Governor Dwight H. Green has appointed a special Advisory Committee to the Department's Division of Industrial Hygiene. Dr. Roland R. Cross, Director of the Department, and Dr. Milton H. Kronenberg, Chief of the Division, are ex-officio members of the new Committee, under the Chairmanship of Dr. Philip Kreuscher of Chicago, who is also Chairman of the Illinois Medical Society's Industrial Hygiene Committee. As Vice-Chairman of the State's Industrial Hygiene Advisory Committee the Governor appointed Joseph H. Chivers of Chicago. Other Chicago members are Dr. Raymond B. Allen of the University of Illinois, William Donovan, Harry Guilbert, A. G. Hewitt, and Oliver E. Mount. Other downstate members are Dr. N. O. Gunderson of Rockford, C. G. Lanphier of Springfield, Edward F. Schweich of East St. Louis, and Dr. Harold Vonachen of Peoria.

A DOCTOR'S PLEA IN WARTIME

The doctor's life, in times like these,
Is not exactly one of ease.

For, on the home front, each M. D.
Is busier than any bee!

He's shouldering the burden for
The other docs, who've gone to war.

This leaves your doctor precious little
Time to set around and whittle.

And indicates the reason why
You ought to help the poor old guy.

HOW?

1. By keeping yourselves in the best of condition
 Thus avoiding the ills that demand a physician.
2. By phoning him promptly when illness gives warning,
 But — unless very serious — waiting till morning.
3. By cheerfully taking whatever appointment
 He makes for prescribing his pills or his ointment.
4. By calling on him where he works or resides
 Instead of insisting he rush to your sides.
 (Of course, he'll come 'round when there's need for his service
 But spare him the trip when you're nothing but nervous.)
5. And, last but not least, you can help in this crisis
 By carefully following Doctor's advices.

If these commandments you'll adhere to
A doctor's heart you will be dear to!

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1. Anesthesia and Analgesia 21:229, July-August, 1942
2. Canadian Med. Assoc. J.: 46:345, April, 1942



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February, 1943

In This Issue

Fetal Distress During Labor

Respiratory Disturbances in the Newly-Born Infant

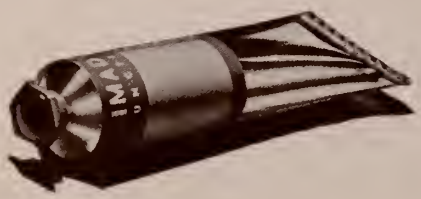
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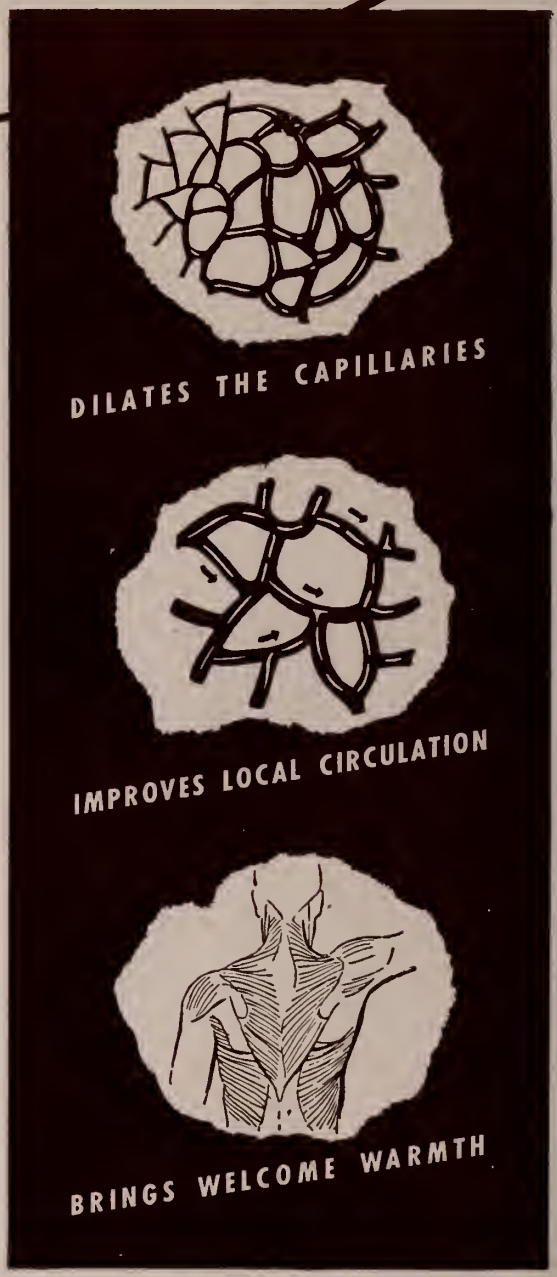
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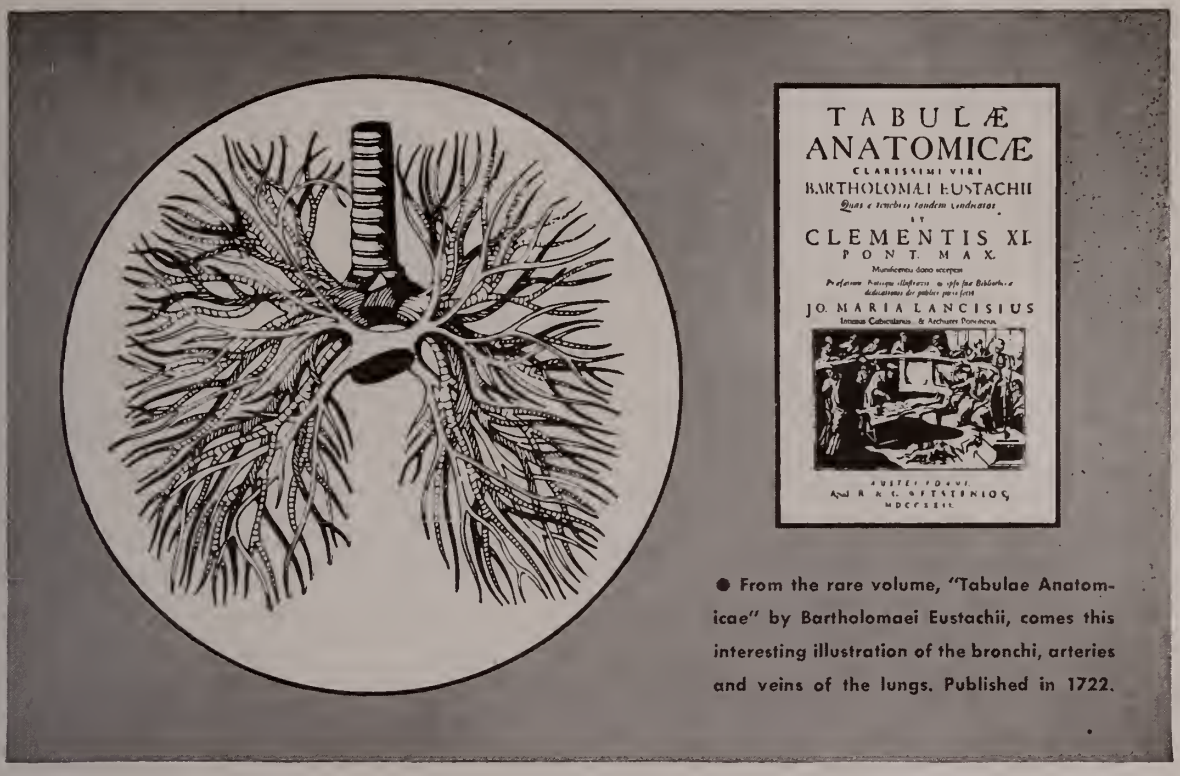
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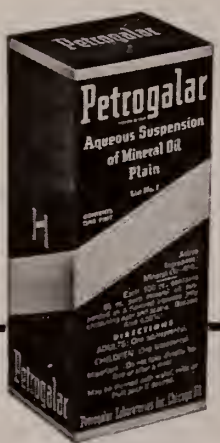
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Petrogalar

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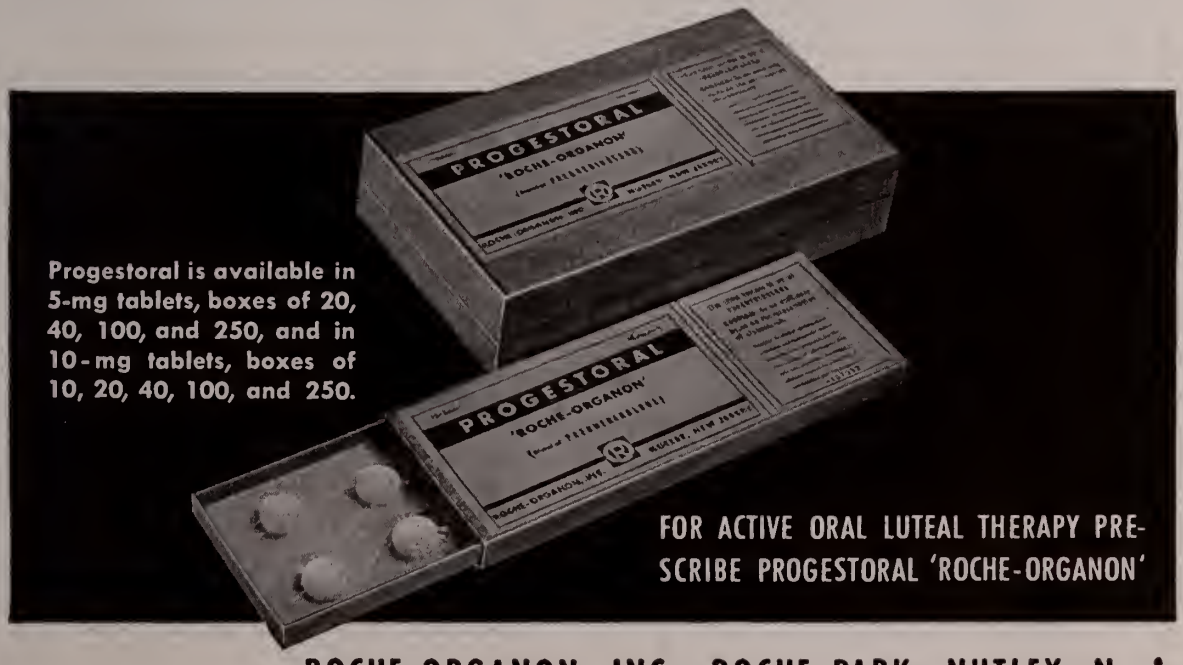
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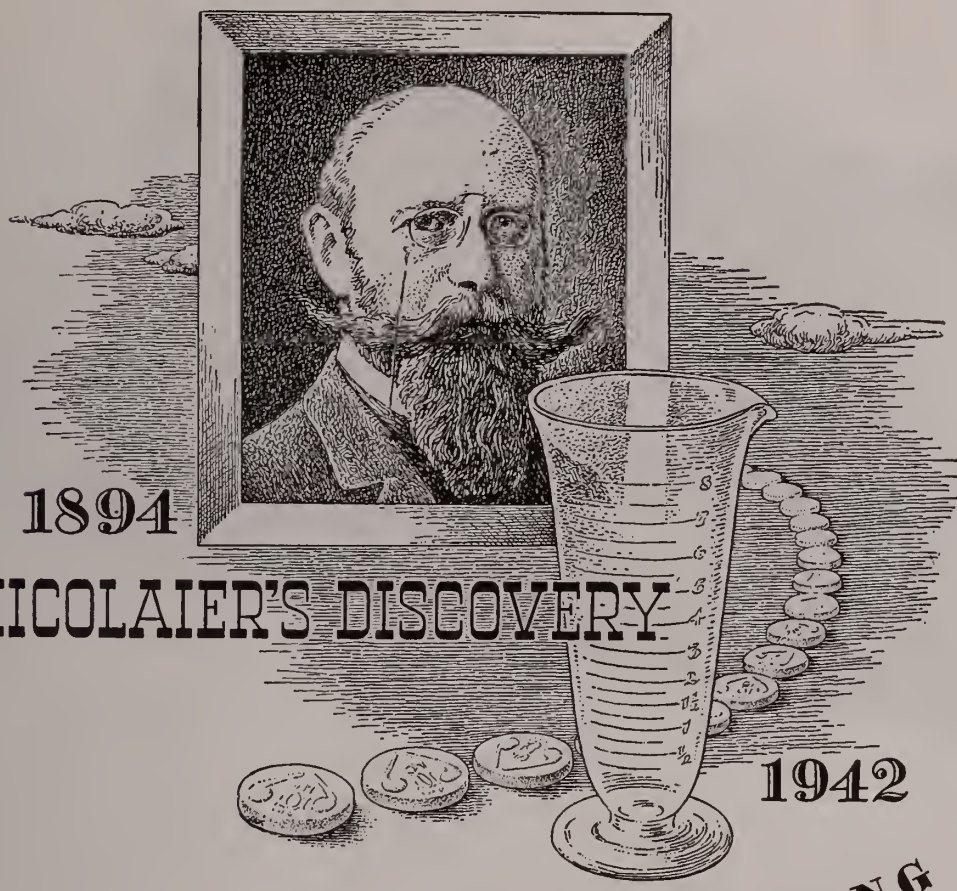
Vitamin A	5000 U.S.P. units
Vitamin D	800 U.S.P. units
Vitamin C	30 milligrams
Thiamine hydrachloride	1 milligram
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Niacin amide*	10 milligrams
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* Suggested by National Research Council—not official.

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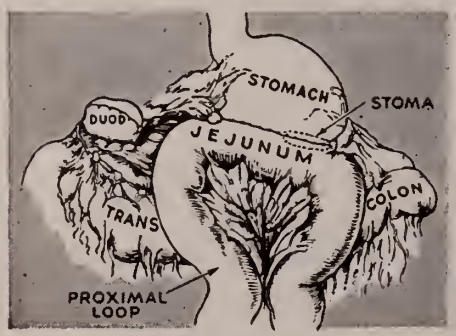
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1. *Fauley, G. B.; Freeman, S.; Ivy, A. C.; Atkinson, A. J.; and Wigodsky, H. S.;* Aluminum Phosphate in the Therapy of Peptic Ulcer, Arch. Int. Med. 67: 563-578 (March) 1941.
2. *Marshall, S. F., and Devine, J. W. Jr.;* Gastrojejunal Ulcer, S. Clin. North America, 743-761 (June) 1941.

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NIACINAMIDE	10 mg.	10 mg.	5 mg.
PANTOTHENIC ACID	0.75 mg.	1.8 mg.	0.275 mg.

All forms also contain other factors including biotin, choline, inositol and para-aminobenzoic acid.

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Before Treatment *After Treatment*



Reproduced from the article "Notes concerning the Cause and Treatment of Celiac Disease" Journal of Pediatrics, September, 1942.*

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Lederle

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*MAY, C. D.; MCCREARY, J. F., and BLACKFAN, K. D.: J. Pediat. 21: 289—Sept., 1942.

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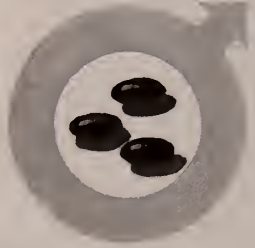


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† Fowler and Barer: "Rate of Hemoglobin Regeneration in Blood Donors." J.A.M.A., 118:421:1942.
*Reg. U. S. Pat. Off.

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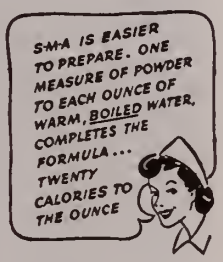
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The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Philip H. Kreuscher, Harry Culver.

Editorials

ILLINOIS MEETS ITS QUOTA

As was suspected by the state committee on Procurement and Assignment Service for Physicians, Illinois was credited in Washington on December 31, 1942 as having slightly exceeded its quota of physicians for the armed forces for the year. Credit is not given the respective states in meeting their quotas for the internes and residents from the state who have been commissioned as medical officers. No credit is given for men in Veterans Administration Facilities, although they hold a reserve commission in most cases. If this credit had been given, Illinois with hundreds of the younger men leaving these positions as internes and residents to enter service, a great showing would have been recorded.

During 1943 from present indications the quota for this state will be greatly reduced and once more it is believed that the established quota will be met without greatly impairing the maintenance of adequate medical care in all parts of the state. The Procurement and Assignment Service is working each day in the effort to aid in the relocation of physicians within the state. It is believed that relocations deemed necessary can be made by shifting physicians from certain communities to others without asking for assistance from other states where there may be more physicians than are actually necessary for civilian service.

At this time a reappraisal is being made of the medical manpower of Illinois by counties and special attention is given to the physical condition of those physicians remaining in civilian practice, to their age and to other pertinent data, so that a better picture may be had of actual conditions.

In some communities younger physicians have been declared available and have been commissioned, leaving the older men for civilian duties. In a few instances soon after the younger men have been commissioned, some of the other men have decided to move to a larger city leaving the community without a resident physician. Attention has been called to the fact that in one of the larger downstate cities no less than 12 physicians from other localities have gone in to practice there within a relatively short time, even though it was generally considered that enough physicians remained for civilian care. This is a situation that Procurement and Assignment cannot prevent, but we all hope that it will be possible for the county committees as well as the medical society officers to do everything reasonable to discourage the relocation of additional physicians in this manner during the present emergency.

Several physicians in Illinois who are exceptionally well qualified and who have always practiced in a large city successfully, have given assurance of their willingness to go to smaller communities to carry on until the former physicians now in service return to their civilian

posts. A few of these men have already moved to certain rural communities and surely are doing their bit to help in the war effort.

Physicians willing to be relocated are requested to write to the State Chairman, Procurement and Assignment Service for Illinois, giving information as to their age, school, date of graduation, and information relative to their present physical condition and the type of work they are especially fitted to do. When this information is received they will be given a list of communities where additional medical personnel is needed and the names of the proper individuals in these communities with whom they should correspond to get additional information.

Relocations can and will be made without using physicians from other states if all Illinois physicians are willing to do their part.

Tuberculosis is the enemy of every American. Our job is to find the enemy and destroy him. Charles E. Lyght, M.D., Journal-Lancet, April, 1942.

DISCRIMINATE USE OF THE SULPHONAMIDES

Present-day sulfonamide therapy is unquestionably one of the greatest achievements of modern medical science. These drugs are now used orally, parenterally, intraabdominally, and locally, in the treatment of many types of conditions. Probably all branches of medicine have seen marked improvements in both mortality and morbidity through the use of these drugs.

In the five-year period from 1937 to 1942, the reduction in deaths from all forms of pneumonia has been 50%. These reductions have been especially in the types of pneumonia of pneumococcal, staphylococcal and streptococcal origin, for in some other types the sulfonamides have little, if any, effect on the progress of the infections. Within the past two years, two unusual opportunities to establish the true value of these drugs have been presented to show what they can do in the treatment of wounds.

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Many wounded evacuated at Dunkirk were given sulfanilamide while many others did not receive the drug, and the contrast in both mortality and morbidity of these groups was most astounding. The second unusual opportunity was afforded at Pearl Harbor where suppuration was almost absent, and no deaths from gas gangrene, following the local use of sulfanilamide in these wounds. The operative mortality was probably the lowest on record, considering the type of the injuries, and this largely attributed to the use of the sulfonamides and plasma transfusions. Some of these cases did not receive surgical attention until the third day following receipt of injury.

In the five-year period, 1937-42, we know that not only has there been a marked reduction in the deaths from pneumonia in the United States, but a more remarkable reductions in deaths from cerebro-spinal meningitis, which in 1941 caused only 29% as many deaths as in 1937, and scarlet fever, with 16% as many deaths as in 1937. Likewise in many other conditions such as erysipelas, there has been not only a reduction in mortality and morbidity which is astounding, but the formerly much dreaded complications have been almost absent following the use of these drugs.

During the past five or six years, there have been many reports dealing with the subject of toxic manifestations following the use of the sulfonamides and a considerable number of deaths from their use have been reported. Most physicians, who have been using these preparations since their true value has become established, recall a number of patients who do not tolerate them as well as others, and perhaps the reactions have been sufficient to cause a discontinuance of their use in these patients.

On account of their unusual value, it seems quite possible that many have disregarded these minor reactions from the use of sulfonamides, and they have been continued even though causing some undesired toxic manifestations. On account of the ever-increasing value of the preparations in a variety of diseases, some people have resorted to self-medication in using them where there is no reason to believe they can be of service. Among these conditions are the minor upper respiratory tract infections, the "common cold," influenza, and many other similar conditions. Many people have taken the drugs for supposedly minor sinusitis infections where their use in not necessarily of value. Realizing that these drugs are among the greater developments in medicine in recent years, the fact that some people may become so sensitized to them that their use should be limited to actual indications is a factor too often overlooked.

These undesired reactions are principally seen under two categories; The first includes the reactions seen soon after the drug is given. These vary considerably in the degree of the reactions, some mild while others may be markedly severe. Nausea and vomiting frequently occur early in their use, vertigo is a fairly common result and many physicians have warned their patients taking one of these drugs of the possible dangers in driving a car during their administration. It is generally known that industrial workers taking sulfonamides are more likely to receive accidental injuries than the others. Various types of mental disturbances varying from a mild mental lapse to severe psychoses have been seen among those taking the drugs.

The second category consists of those individuals who may become sensitized from primary use of the sulfonamides, that when they are definitely indicated in some severe infection and the drugs are given, the second toxic reactions may be similar to those previously seen. Frequently these reactions are more severe and there is great danger of more serious and perhaps permanent damage to various organic structure. Drug fever is occasionally seen following their use, and this usually is sufficient justification for a discontinuance of the drugs. In some series of cases where primary reactions were noted, and the drug was given later, as many as 75% had the secondary reactions.

Several types of dermatological reactions have been noted, these varying from a mild disturbance to quite a number of cases of severe eruptive disturbances, some even causing death.

Then again, some of the most dreaded toxic effects from the use of the sulfonamides have been upon the blood and the hematopoetic system. Hemolytic anemias have been reported rather frequently in the literature with some deaths especially when the drug was not discontinued in time. Agranulocytosis is one of the most feared toxic results seen, and usually

this appears only after the drug has been taken over a period of from 12 to 25 days. The length of time the drug has been taken seems to be a highly important factor in this complication, perhaps more than the total amount which has been given.

Several other types of anemias have been reported following the use of the sulfonamides. It is highly important that the physician know which drugs should be used in the many conditions where they are indicated, as well as the ones most frequently resulting in the several undesired toxic reactions. Several conditions referable to the urinary tract have been reported rather frequently such as hematuria, and the development of renal calculi.

Medical literature within a relatively short time has reported more than 200 deaths from sulfonamides, and it is quite probable that this does not represent nearly all of the deaths which may have been attributed to their use. Manufacturers and distriubutors of these drugs have reported the sale of approximately one million pounds of the sulfonamides during 1941, so when consideration is given to the vast amount actually used, perhaps we should not be unduly alarmed at the number of reported toxic reactions.

Every physician before administering sulfonamides should endeavor to ascertain whether or not the patient has previously taken one of the drugs in this group, and if there was an undesired reaction through its use. He should know the indications for the drugs, and also the type which is best adapted for the condition being treated. He should know which of these types cause the most reactions, and use them only when there is a definite indication. He should keep in mind the fact that there is frequently a definite drug sensitization, and that when there has been a reaction previously, there is a great likelihood of secondary reactions following their re-administration, which may be more severe than that previously seen.

Concentration of the drug in the blood should be determined following the first 24 hours of treatment when usually larger doses are used. Subsequent determinations should likewise be made.

Complete blood counts should be made to determine the possibility of the development of an anemia, if there is any alteration in the white blood count, and likewise the differential counts to determine any changes therein. Marked leucopenia should be considered definite reason for the prompt discontinuance of the drug. The urinary out-put should be determined daily and perhaps albumin tests made as often, and likewise microscopic examinations to determine the number of white cells which may be found in the specimen.

These valuable drugs should be used when indicated, although their use should be prohibited in the form of self-medication. Members of the medical profession should get all possible information on the proper use of sulfonamides, the type to be used, and definite indications and contraindications for their use. At the present time, it is the general concensus of opinion that sulfadiazene is the safest drug of the group to be administered in most cases, although there are a few exceptions where sulfanilimide or sulfathiazol are the drugs of choice. We should also keep in mind the fact that we may be dealing with a drug sensitization and all possible safeguards should be taken to prevent additional undesired reactions.

WAR TIME CIVILIAN MEDICAL CARE

With approximately four thousand Illinois physicians now enlisted with the armed forces, there is a marked change in the normal proportion of physicians to the civilian population. Many small towns which formerly had a resident physician may be unable to have a replacement for the duration, although every effort will be made to see that physicians nearby will adequately care for these people until their own physician returns home after the war.

The Procurement and Assignment Service for Physicians, now under the War Manpower Commission, will endeavor in every way possible to aid in the relocation of physicians to those communities actually unable to provide for themselves satisfactory medical attention. At this time quite a number of replacements have been made throughout Illinois, and each day appeals go out to a number of physicians willing to be relocated, to investigate a number of places where

appraisals show actual need of additional medical personnel.

Unfortunately there have been a number of physcians in recent months leave a smaller community where they had been located and go to a larger city where the number of medical men has been judged ample to care for all civilian needs. It is not the larger cities which need more physicians, with perhaps a very few exceptions where ordnance plants, or expanding industrial organizations have taken thousands of laborers and their families into those areas.

The Procurement and Assignment Service has devoted much time in recent weeks to the consideration of various plans to improve medical adequacy in all parts of the country. These considerations take place both at the national and state levels. Within a short time Illinois will have a committee on civilian medical needs to consider the needs of all parts of the state along the line of medical care. This group will endeavor in every way possible to aid in the relocation of physicians from places having more than are actually needed, to those communities where additional services are necessary. In addition to the medical members, it is proposed to have representatives of Dentistry, Public Health, Agriculture, Labor and Industry, so that all types of our citizenry will be represented and different groups will be able to aid in the reappraisals to be undertaken soon at the county level.

The County Committees on Procurement and Assignment will have an important part in these studies, and likewise will be asked to aid in the procuring of a better type of cooperation between physicians and patients, so that none will actually be denied a decent type of medical care during the war. It is quite obvious with nearly one-third of Illinois physicians in service, and more needed each month during 1943, the actual type of medical care previously available may not be had during the present emergency. This is true with the other necessities of life, many of which are being rationed now, and many more will be rationed in the near future.

Physicians will be asked to care for all needing medical care under some plan to be developed locally. The patients will be asked to use discretion in calling physicians, and eliminate unnecessary calls, especially calls at night. They will be asked not to call a physician at night when the call could have been made the previous day. More patients should be able to see the physician in his office, reserving house calls largely as a matter of necessity.

Reports have been received recently of actions which have been taken in a number of Illinois counties where physicians in turn have been selected to care for those people unable to pay for services, and where no provision has been made for their care through public funds. Likewise in some communities, physicians are selected in turn to make night calls, to give much needed rest to other physicians.

Within a short time, the Illinois Committee on Procurement and Assignment will send a bulletin to all county committees, and to the county medical societies giving information which is being prepared at this time by the Governing Board of Procurement and Assignment to give more information on these subjects.

It is the present opinion of the Council of the Illinois State Medical Society as well as the State Committee on Procurement and Assignment that we have enough physicians remaining in Illinois, if properly located, to give the best type of medical care that can be expected under present conditions, and that it will not be necessary to bring in physicians from other states to practice in Illinois during the war.

With a better type of cooperation between physicians and patients, and with the proper exercising of judgment by both groups, it seems quite likely that a more desirable type of understanding can be created which will react to the advantage of all concerned.

We must keep well in mind that tuberculosis is a poor man's disease. It kills seven times as many per hundred thousand among unskilled workers as among the higher paid individuals. It strikes those least prepared to take the blow. That fact in itself is sufficient to make it imperative that the cost come out of the sources other than the victims' meager income. If we expect to finance the war (against tuberculosis) out of the pockets of those found to be suffering from the disease we may as well hoist the white flag. The war cannot be won that way. The public health is the public trust and responsibility and doubly so when the danger comes from a communicable disease. Matthew Woll, Penna's. Health., February 1942.

The following resolution was adopted by the Council of the Illinois State Medical Society at its regular meeting held in Chicago on January 17, 1943, and is hereby published in the February issue of the Illinois Medical Journal as was ordered by the Council.

Edwin S. Hamilton, M.D.
Chairman of Council
Ill. State Med. Society

A RESOLUTION

Whereas the Lord has seen fit to call Mrs. Doris Camp, the beloved wife of our esteemed Secretary, on January 2, 1943, and Whereas Mrs. Camp was a person loved and admired by the members of this Council who came into frequent contact with her, one who always had a kind word and a smile for every one in spite of a long continued disabling illness, and Whereas her character was such that in spite of the frequent absences of her husband, she was always cooperative and an incentive to Dr. Camp in his capacity as Secretary and Editor, Therefore be it Resolved that the Council of the Illinois State Medical Society extend to Dr. Camp its deepest sympathy, and be it further Resolved that her passing will leave an unreplaceable vacancy in the hearts of all of us, and be it further Resolved that a copy of this resolution be sent to Dr. Camp and also be published in the Illinois Medical Journal.

COMMITTEE CHAIRMEN FOR ANNUAL MEETING

Robert S. Berghoff, Chairman of Arrangements for the 103rd Annual Meeting of the Illinois State Medical Society, Palmer House, Chicago, May 18, 19, 20 announces the following have consented to serve as Chairmen of the local Committees:

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J. J. Moore

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Raymond W. McNealy

Obstetrics & Gynecology
Herbert Schmitz

Eye Ear Nose & Throat
Vernon M. Leech

The discovery of a primary infection in a child should not condemn it to a life of chronic invalidism, but should lead to the examination of its contacts with the expectation of the discovery of a source of infection, the successful handling of which will protect the child from any consequences of its infection, and possibly save the life and health of many other persons. G. A. M. Hall, M.D., British Jour. of Tuber., July-Oct. 1941.

PAPERS FOR THE 1943 ANNUAL MEETING

The Illinois State Medical Society is planning to hold the 1943 annual meeting scheduled for Chicago, on May 18, 19, 20 at the Palmer House. At a recent meeting this matter was thoroughly discussed by the Council, then later by the Committee on Scientific Work and plans are now being made for an outstanding program which it is hoped will be of general interest to all physicians. The 1943 meeting will be considered a war meeting, and efforts will be made to feature the role of medicine in war time and also extend invitations to the many medical officers in the Army and Naval forces stationed in Illinois to attend the meeting and participate in the discussions.

There will be more general sessions scheduled than usual, with all of the scientific sections participating, but provisions will be made for individual sections to conduct their own technical sessions during the meeting.

Members of this Society who desire to present papers before any of the sections are requested to write to the officers of the proper section giving the information, and including the title of the paper, and a short synopsis or abstract so that the officers will be better enabled to determine whether or not the paper will fit in with the program scheme, and also keeping in mind the fact that with so many general sessions, there will be less time than usual available for technical subjects.

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Joseph S. Lundholm, Vice-Chairman.....
..... Rockford, Ill.
J. R. Buchbinder, Secretary.....
.....104 S. Michigan Ave., Chicago, Ill.

* In service.

SECTION ON EYE, EAR, NOSE & THROAT

G. Henry Mundt, Chairman.....
.....30 N. Michigan Ave., Chicago, Ill.
George H. Woodruff, Secretary.....
.....Joliet, Ill.

SECTION ON PUBLIC HEALTH & HYGIENE

Henry C. Niblack, Chairman.....
.....54 W. Hubbard St., Chicago, Ill.
R. R. Cross, Secretary.....
.....Springfield, Ill.

SECTION ON RADIOLOGY

* Cesare Gianturco, Chairman.....
.....Urbana, Ill.
F. Flinn, Vice-chairman.....
.....Decatur, Ill.
Fay Squire, Secretary.....
.....1753 W. Congress St., Chicago, Ill.

SECTION ON PEDIATRICS

A. J. Fletcher, Chairman.....
.....Danville, Ill.,
Robert Cummings, Secretary.....
.....400 E. 79th St., Chicago, Ill.

SECTION ON OBSTETRICS & GYNECOLOGY

Clyde J. Geiger, Chairman.....
.....4753 Broadway, Chicago, Ill.
C. J. Heiberger, Secretary.....
.....Peoria, Ill.

NOTE: The Section on Pediatrics and the Section on Obstetrics and Gynecology are required to divide the time equally during the meeting, and cannot meet simultaneously unless in joint session.

Physicians interested in presenting papers at the 1943 meeting should write to the above named officers.

In spite of the apparent shift of the peak of mortality toward the older age groups, tuberculosis is still second in importance as a cause of death among men 20 to 34 years of age, while the highest incidence of morbidity from tuberculosis is still in the age group 15 to 29. In most cases in which tuberculosis is diagnosed at a late age, it could have been diagnosed earlier had the patients been examined at, or about, the age of 30. R. E. Plunkett, M. D., War Medicine, Sept.-Oct., 1941.

Due to aid extended to families in which tuberculosis is a problem, it is not at all impossible that the general expenditure for tuberculosis outside the sanatorium may be equal to, or exceed, the expenditure for tuberculosis within the sanatorium. L. M. Morse, M.D., Wisconsin Med. Jour., March, 1941.

Correspondence

NATIONAL NURSING COUNCIL FOR WAR SERVICE

The National Nursing Council for War Service is one of three separate but closely coordinated units primarily concerned with nursing in the war effort. The other two are: The Subcommittee on Nursing of the Health and Medical Committee of the Office of Defense Health and Welfare Services, whose chief functions are the education, procurement and distribution of nurses in this emergency; The American Red Cross Nursing Service, which serves as the recruiting agent of nurses for the military services.

These three units, The Subcommittee on Nursing, The Nursing Council and The American Red Cross, are closely related to each other having interlocking memberships. Nurses on leave from their civilian positions are serving as consultants to the various federal health and welfare agencies. Therefore, one nurse serves as consultant to the Health and Medical Committee of the Office of Defense Health and Welfare Services; another has been appointed to the Medical Division of the Office of Civilian Defense; several others are serving as consultants to the U. S. Public Health Service in its administration of federal funds for nursing education.

"The National Nursing Council for War Service was created to co-ordinate and utilize to the best possible advantage all of the organizational and other resources of the profession and to present a united nursing front to the world."[1] In order to function in the most effective way, the National Nursing Council for War Service, has been organized into smaller groups on a state and local level. Thus every state has a nursing council and local councils are being formed rapidly. In many state and local areas, a nurse representative of the state and local nursing council for war service, sits also on the state and local defense councils organized to protect the civilian population in case of disaster.

Through the cooperation of the United States Public Health Service each state is making an up-to-date registration of professional nurses ready to serve in case of emergency. These lists will be available to both the local nursing council and to the local Office of Civilian Defense.

The Illinois State Nursing Council of the Illinois State Nurses Association functions as the connecting link between the eleven local nursing councils in Illinois and the National Nursing Council for War Service. It serves as a clearing house for all activities having to do with nursing within the State. Therefore, it is closely related to the Nurse Division of the Illinois State Department of Registration and Education, The Nurse Division of the Illinois Department of Public Health and with such organizations as the Illinois Hospital Association and the Illinois State Medical Association.

This year the Council has a program of major significance. It has to do mainly with the balance of nursing service: one, supplying the military forces with a sufficient number of nurses

[1] Professional Nursing, The Nursing Information Bureau, 1790 Broadway, New York, New York.

for the care of wounded and ill soldiers and sailors; two, with meeting the health needs of the civilian population. This maintenance of the balance of nursing service depends wholly upon the results of supply and distribution.

The supply of nursing service must be met by:

1. The enrollment of a larger number of students in schools of nursing —
 55,000 for 1942-43 and
 65,000 for 1943-44
2. Finding the hidden or inactive nurse and qualifying her for service through refresher courses.
3. Promoting the use of auxiliary workers to the limit by a careful analysis of the duties they can perform safely, and assigning them in relation to the abilities of the workers.

The adequate distribution of nursing service entails the location, preparation and utilization of all the nurse power of the nation. It means a cooperative task on the part of the medical and nursing professions and the public. The result should be "to get every nurse into the place where she is most needed and where her particular abilities are used to the fullest. Such redistribution should first of all eliminate duplication of nursing services, luxury nursing and employment of nurses in non-nursing positions."[2]

The President of the Illinois State Medical Society or his representative is a member of the Illinois State Nursing Council for War Service. We believe the cooperation of this organization in the objectives of the council will have tremendous influence in the execution of its three-fold program.

Mrs. Ada R. Crocker, Chairman
State Nursing Council for
War Service

STATE LABORATORY AT GALESBURG CLOSED

Because of the closing January 30th of the Galesburg Branch Laboratory of the Illinois Department of Public Health, physicians in the Galesburg area who wish to make use of State laboratory facilities for the examination of various specimens are asked to send the material either to the Department's Main Laboratory at 126 North Fifth Street, Springfield, or to the Department's Branch Laboratory at 1800 W. Fillmore Street, Chicago.

Under present State health budget limitations the Department is unable to offer salaries adequate to recruit civilian bacteriologists qualified to fill highly responsible supervisory positions. Personnel of this calibre can today command higher salaries in commercial laboratories than the existing State health budget would allow.

The State bacteriologist formerly in charge at Galesburg, Mr. Calvin Corey, entered military service on January 14 and has not been replaced.

VETERANS ADMINISTRATION

Hines, Illinois
January 4, 1943

Illinois State Medical Society
Gentlemen:-

You undoubtedly appreciate the difficulties confronting Federal agencies with respect to securing qualified professional personnel to fill vacancies caused by persons entering service with the armed forces and new positions caused by the increase in work.

The Veterans' Administration is, at the present time, desirous of securing the services of physicians to fill the positions of Rating Specialists, Medical. This work involves the consideration of disability and death claims arising from the present war and prior wars. Rating Boards have three members; a physician, a lawyer and a layman. Our Central Office in Washington and field offices have at least one of these boards in operation and here at Hines we have four. The work requires no travel and due to its sedentary nature, persons with physical handicaps are not barred if otherwise qualified. The requirements are that the applicant be a member in good standing in his profession and have been regularly admitted to practice in one of the States or the District of Columbia. The entrance salary is $3,800.00 per annum, with promotional steps up to $4,600.00 per annum. Under the recent salary increase law there will be approximately a twenty per centum increase over and above the entrance salary.

Yours very truly,
J. P. CULLEN
Adjudication Officer

2 Priorities for Nurses — National Nursing Council for War Service, Inc., 1790 Broadway, New York City.

RULES GOVERNING AWARD
"The Foundation Prize"
of the
American Association
of
Obstetricians, Gynecologists
And Abdominal Surgeons
Will be Awarded on the Basis of the Following Rules: —

(1) "The award which shall be known as 'The Foundation Prize' shall consist of $150.00."

(2) "Eligible contestants shall include only (a) interns, residents, or graduate students in Obstetrics, Gynecology or Abdominal Surgery, and (b) physicians (with an M.D. degree) who are actively practicing or teaching Obstetrics, Gynecology or Abdominal surgery."

(3) "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

(4) "Manuscripts must be limited to 5000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

(5) "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the Author's choice. Unsuccessful contributions will be returned promptly to their authors."

(6) "Three copies of all manuscripts and illustrations entered in a given year must be in the hands of the Secretary before June 1st."

(7) "The award will be made at the Annual Meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

(8) "The President of the Association shall annually appoint a Committee on Award, which, under its own regulations shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meeting."

Jas. R. Bloss, M.D.
Secretary.
418 Eleventh Street,
Huntington, W. Va.

WOMAN'S AUXILIARY ACTIVITIES

The Woman's Auxiliary to the Will-Grundy County Medical Society reports a very interesting program. They have a War Bond and Defense Stamp committee which assists the local War Service Committee. They also pledged a sum of money equivalent to a dollar a member towards the Red Cross Kit Bag Fund. They also assisted in the making of kit bags and surgical dressings for the Red Cross.

In February they plan to entertain at a dinner dance a group of Coast Guards stationed nearby. The chairman is a member of the local U.S.O.

Such a program speaks well for the Woman's Auxiliary to the Will-Grundy County Medical Society and certainly identifies it with other working groups. Mrs. D. W. Killinger is president of the Auxiliary.

Mrs. W. C. Bornemeier State Hygeia Chairman reports that Hygeia is having an important place in the War Program this year. There are so many authentic articles on nutrition that meet the needs of all; also articles on guides to health that are of vital interest.

"In a survey made through unorganized Counties we found a need for many more subscriptions to Hygeia than we were able to provide, but," says Mrs. Bornemeier, "through the generosity of a member of the State Auxiliary we were able to send to all who requested it."

The Bureau County Medical Society Woman's Auxiliary entertained our State President, Mrs. W. J. Wanninger of Chicago. Mrs. Wanninger spoke on "What The Medical Auxiliary Can Do in Civilian Defense." She stressed the sale of Defense stamps and Bonds.

A Silver Tea was held at the home of Mrs. R. E. Miltenberger at Spring Valley for the

purchase of books to be sent to military camps.

The Woman's Auxiliary to the St. Clair County Medical Society had a tea at the home of Mrs. J. C. Soucy, 31 Oak Knoll to honor Mrs. W. J. Wanninger, State President. A book review was given by Mrs. Rex Evans of Maplewood, Mo. Assisting Mrs. Soucy were Mrs. Robinson Bosworth, Mrs. W. J. Crotty, Mrs. R. B. Ellis, Mrs. I. L. Foulon, Mrs. W. A. Griffith, Mrs. W. L. Hanson, Mrs. Royal Tharp and Mrs. E. C. Spitze.

Woman's Auxiliary to the Sangamon County Medical Society entertained Mrs. W. J. Wanninger at a recent meeting. Preceding the meeting the members did Red Cross work. Mrs. K. D. Kohlstedt, chairman, urged all members to help. Mrs. D. M. Sirca is president.

The Woman's Auxiliary to the Livingston County Medical Society had a dinner and meeting at the home of Mrs. A. J. McGee in Dwight. Mrs. Kendall assisted. The evening was spent in making sponges and dressings for Livingston County sanitorium.

The Woman's Auxiliary to the Chicago Medical Society meets the first Wednesday of each month in the Medinah Club. Luncheon at 12:30. Mrs. Arthur I. Edison, President, extends a cordial invitation to all visiting or out-of-town members to attend the luncheon and meetings.

Mrs. J. E. McGuiggan
Pub. Chairman

PUBLIC FORUM PLANNED ON CHICAGO'S CANCER PROBLEMS

Dr. Bowman C. Crowell, Associate Director of the American College of Surgeons, announces plans for the holding of a Public Forum on Chicago's Cancer Problems, under the auspices of the Chicago Cancer Committee, Inc., at the John B. Murphy Memorial Auditorium, 50 East Erie Street, on Tuesday evening, February 16. Dr. Crowell is chairman of the committee in charge of arrangements and will act as moderator.

The program as tentatively announced will include the following speakers and subjects:

Ludvig Hektoen, M. D., Chairman, Chicago Cancer Committee, Inc.

"The Program of the Chicago Cancer Committee"

J. P. Simonds, M. D., Chairman, Cancer Committee, Chicago Medical Society

"Hospital Facilities for Care of Cancer Cases and Instruction on Cancer to Medical Students — Report of New Survey"

Herman N. Bundesen, M. D., President, Chicago Department of Health

"Cancer Mortality Statistics in Chicago and the Nation"

Rollo K. Packard, M. D., President, Chicago Hospital Council

"Relation of the Chicago Hospital Council to the Cancer Problem"

Miss M. E. Westphal, Director, Visiting Nurse Association of Chicago

"Home Care of Cancer Cases"

Alexander Brunschwig, M. D., Member Cancer Committee, Chicago Medical Society

"Cancer Research in Chicago"

Mrs. Arthur I. Edison, State Commander, Women's Field Army, American Society for the Control of Cancer

"Local Program of the Women's Field Army"

Raymond V. Brokaw, M. D., Director, Division of Cancer Control, Illinois State Department of Health

Topic to be announced later

A period for questions and answers pertaining to subjects that have been presented will be provided following the discussions.

RARE CHEMICAL EMPLOYEES ADOPT WAR BOND SAVINGS PLAN

Employees of Rare Chemicals have enthusiastically responded to the suggestion of General Manager E. T. Fritzsching that they aid the war effort by purchasing War Bonds on a voluntary payroll deduction plan instituted by that company.

To date, 91.7% of the employees have authorized the management to deduct a certain portion of their wages and salaries each payday to enable the government to purchase more guns, tanks and ships.

Adam Paul Piret, Sales Promotion Manager and Chauncey Olmstead, Chief Engineer, head Rare's War Bond Committee. Purchase and distribution of War Bonds will be made by Arthur F. Harden, Assistant Secretary.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

The Ruml Plan for Pay As You Go Income Tax is now being considered by Congress and the Treasury Department.

This is important to physicians in the service, especially those who joined in 1942, and equally important to all others who joined during that period, and who had a fairly high income for 1942. The plan at present proposes to eliminate the payment of 1942 taxes with the exception of the first payment due March 15, 1943. It then, proposes to establish a pay as you go income tax bill for 1943. Many physicians and others would benefit from this program and it would not embarrass the Treasury Department as far as income for 1943 is concerned.

Many men in the service would encounter some hardships in meeting the total 1942 income tax payment while in the service. It is undoubtedly true that many people make little or no provision for their taxes during the taxable year, but depend upon the following year to meet the taxes of the preceding year. This will be more true of several million people who under the old law will be subject to their first income tax payment.

Another factor favoring the pay as you go plan is the possibility that following the war, which a great many think will be concluded in 1943, incomes will decrease, and with the decreased incomes many will not be able to pay their tax out of earnings of the following year.

Higher taxes are justified at the present time to meet the budget and to prevent inflation. It is estimated that the American people will have fifteen billion dollars, in income during 1943, more than there will be goods to purchase, and with this amount of money increasing prices will develop in spite of their attempt to establish price ceilings.

The argument that people will or should save that fifteen billion dollars for future needs in the post-war period is plausible, but not practical because it is evident today as it has been in the past, during periods of prosperity, that the majority of the people are inclined to spend the major portion of their income. Perhaps a nation campaign on frugality both for the government and the people might be advisable. It is evident that we soon forget out depressions and make little effort to provide for them during periods of prosperity. Most large businesses do this, but strangely enough not even all of them.

It must be conceded that unless management in general had set-up vast reserves previous to the depression, which they could use during the depression, thus enabling them to continue operation at an operating loss, that we could not have moved into our gigantic war production as we did because plants and tools, etc., would have to keep them going. Unemployment would have become obsolete without these necessary reserves been much more serious than it was.

It seems sound to pay as much as we can as we go and to resolve that as soon as the emergency is over to devote our time and effort to the reduction of national expense — thus relieving our people of such high taxes that it virtually makes them economic slaves of a Centralized and Bureaucratic Government.

R. K. Packard,
Chairman
Committee on Medical Economics.

Medicine's Role in the War Effort

NEW PLANS FOR MEDICAL EDUCATION

Specialized Training Program of the Army and Navy

The armed forces have need of the services of men with specialized training. They will utilize available facilities of certain American colleges to institute the training. Those receiving the training will be on active duty in uniform receiving pay and general military discipline. Arrangements will be made with various selected institutions for housing and messing facilities as well as for the actual training.

The plan here described has resulted from conferences between the Army, Navy, War Manpower Commission, and American Council on Education. The plan will be undertaken by the first three of these through a joint committee, with the final decisions in controversial matters being settled by the War Manpower Commission. Although it has been stated that the Army and Navy plans are similar, all data available at present indicate that there is considerable variation in the two programs.

THE ARMY

Selection will be governed by standards used for officers' candidate schools and some additional standards of the American Council on Education. Selection will be made from enlisted men who have completed or are completing basic military training and, except for some of the advanced courses, are under 22 years of age.

There are also eight special groups the members of which will be given training under this plan, including the following:

1. Medical students in the enlisted reserve, who will be called to active duty and detailed to continue instruction.

2. Medical students commissioned in the Medical Administrative Corps who may resign commissions and enlist as privates, to be detailed in the same manner as medical students in the enlisted reserve.

3. Premedical students in the enlisted reserve corps, who will continue on inactive status until the first semester of 1943 and will then be detailed as above.

4. Medical and premedical students not in the enlisted reserve who are taking approved courses, who will be inducted in Selective Service before the first semester of 1943, will be placed on inactive duty for a semester and then detailed for further training as above.

Colleges will be selected on the basis of standards, equipment, adequacy of housing and messing facilities, and minimum Army overhead. The standard of adequate proficiency is to be determined by the Army and the American Council on Education. Initial tests to predetermine the suitability of selectees will be evolved. Standard curriculums will be set by the Army and the American Council on Education. Military training will be given to these students during these courses of instruction under a cadet system. The plan will go into effect in February 1943 under the Commanding General of the Service of Supplies.

THE NAVY

Selection will be made of those having potential officer qualifications. Selections will be from high school graduates or the equivalent, from the seventeenth to the twentieth birthday, and enrolled or inducted men from the seventeenth to the twenty-third birthday. They will become apprentice seamen or private in the U. S.

Marine Corps on active duty with pay and will be assigned to designated colleges. Some other groups will also enter the training program, including V-1 or V-7 reservists who are undergraduates and qualify as medical, dental and theological students, who will continue on active duty as apprentice seamen under instructions in an accelerated curriculum in approved schools and seminaries until the completion of their professional studies.

Selectees can indicate the preference of their colleges and the branch of the service which they wish to join, including the Marine or the Coast Guard. Adequate arrangements for such students will be provided by the colleges under contract with the Navy, which will designate the number of students for the institution and the cost of maintenance of each student. The plan will be carried out under one naval officer in each institution, who will issue instructions as to discipline and routine. Outlines of curriculums will be released by the Bureau of Navy Personnel. Credits will be allowed for scheduled courses which have already been completed and substitution of courses permitted.

A special required minimum for premedical students is similar to standard premedical requirements of medical schools. If the students are qualified at the termination of their course, they will be commissioned in the appropriate reserve. The Navy has issued special details for the correlation of this program with existing programs and specific directions for those who are now in V-1, V-5 and V-7 reserves, Naval ROTC, or who are probationary commissioned students.

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COORDINATION OF INTERNSHIP WITH THE ACCELERATED MEDICAL PROGRAM

The Surgeon General, U. S. Army, has issued general suggestions and recommendations pertinent to closer cooperation between hospitals approved for internship and the medical colleges under the accelerated medical program. The Surgeon General is loath to recommend that a graduate physician of an approved school be called to active duty with the armed forces prior to completion of a twelve months general rotating internship. It is obvious that if the hospitals approved for internships do not cooperate with the accelerated program it would lose its effectiveness in releasing men for duty with the Medical Corps as soon as anticipated. There is now an urgent need for young, physically qualified medical officers for field troop duty.

Original directives from the War Department indicated that graduates were allowed twelve to eighteen months for completion of essential internships. In many instances interns have interpreted this directive as being authority to utilize the additional time for hospital training before beginning the twelve month rotating internship. This has also allowed hospitals which customarily start their intern classes on or about July 1 of each year to maintain original schedules. It is believed that each hospital should establish a schedule of internships commencing on or about April 1, 1943, available to those who graduate in March 1943 under the accelerated medical program and thereafter as students graduate.

This obviously results in the doubling up of those who have not yet completed their twelve months beginning July 1, 1942, but it is hoped that these interns can be used in approved affiliated internships or in the capacity of subresidents to assist in the orientation of medical school graduates of March 1942. The most recent information available of the interns' situation indicates that there are excessive position vacancies over the supply of available interns.

Unless the situation demands it, the War Department does not desire to shorten the period of internship to less than the twelve months required. However, under the increasing pressure of our military needs it is necessary to expect graduates to be immediately available, if physically qualified, twelve months from the time of their graduation. The War Department does not feel that the eighteen months is necessary for completion of a twelve months internship, and this time will therefore no longer be allowed.

It is hoped that all interns will be trained in the rotating type of internship for the twelve months period; that is, one which provides training in medicine, surgery, pediatrics and their related subspecialties together with experience in laboratory and roentgenologic diagnosis. It is desired that house officers' positions be filled by

those individuals not physically fit for military duty and those who are over age for troop duty. By following this procedure and increasing the duties of house officers and the essential staff membership, it is believed that a greater proportion of each year's intern class will be made available for active military duty.

Attention is invited to the new War Department directive precluding the appointment of senior medical students or interns as medical officers, Army of the United States, until within sixty days of their proposed active duty date. Such students and interns are protected from call to active duty by the War Department by:

1. Selective Service agreement.
2. Medical Administrative Corps commissions.
3. Commissions as Reserve Line officers, which they will receive on graduation from college.

This is accomplished under the authority of the War Department, A. G. O. letter dated May 8, 1942, subject "Commissions for Medical Students," the main purpose of which is to protect the essential medical training program.

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RANK ON INITIAL APPOINTMENT

The Surgeon General of the Army has published from time to time detailed information concerning policies governing the initial appointment of physicians as medical officers, and dentists as dental officers.

FIRST LIEUTENANT ONLY FOR MEN UNDER 38

Because of changes occurring in the military situation and in the civilian requirements, it is contemplated that changes will be required in the standards for the initial grade of appointment of medical officers. It is anticipated that in the near future eligible physicians under the age of 38 years will be appointed in the grade of first lieutenant only and that physicians in the age group 38 to 45 will be appointed in numbers and in the grades for which position vacancies exist.

There is an acute need for medical officers under the age of 38. Applications are being solicited in those localities where physicians may be designated by the Procurement and Assignment Service as available for military service.

Appointments of medical and dental officers by medical officers' recruiting boards have been discontinued; however, the boards now active are to continue soliciting applications. All applications are forwarded to the Surgeon General for final recommendation of appointment.

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EXPANSION OF PROGRAM FOR TRAINING NAVAL MEDICAL OFFICERS

Recommendations on expansion of the program for training naval medical officers in special fields were taken under advisement by Rear Admiral Ross R. McIntire, Surgeon General of the Navy, after a two day conference held December 10-11 at the Bureau of Medicine and Surgery. Submitted by the board of honorary consultants at the conclusion of the meeting, the report proposes:

1. Training of brain surgeons in naval hospitals, under Navy surgeons, with civilian hospitals and teaching personnel being utilized only if limited facilities make this step necessary.

2. Increasing the number of skilled anesthetists, to be achieved in part by training and utilizing medical officers of the Women's Reserve. (The commissioning of sixty women medical officers in the Waves has been authorized, such officers to be assigned to Women's Reserve training schools and stations.

3. Supervision of optometrists by ophthalmologists — naval surgeons whose specialty is the eye.

Training of more medical officers in chest surgery, continued emphasis on physical therapy and the exercise of care in diagnosing neuroses also were urged by the consultants, whose report was drafted by Dr. Frank H. Lahey, Boston, head of the Lahey Clinic and chairman of the Procurement and Assignment Service.

Others attending the conference were Dr. Donald Church Balfour, director, Mayo Foundation, Rochester, Minn.; Dr. George W. Crile, director, Cleveland Clinic Foundation; Dr. Walter E. Dandy, professor of neurosurgery, Johns Hopkins Medical School; Dr. Oswald L. Lowsley, New York, and Dr. Willis B. Morse, Salem, Ore.; Dr. Wilbur A. Sawyer, New York, director, International Health Division, Rockfeller Foundation, and Dr. Meyer Wiener, St. Louis, professor of clinical ophthalmology, Washington University School of Medicine. Dr. George W. Crile was the only member of the board not present, because of illness.

BRITAIN THANKS UNITED STATES DOCTORS FOR THEIR AID

At a luncheon given in honor of the heads of the United States and Canadian army medical services in England at St. Dunstan's, famed British home and training center for the blind, the minister of health, Ernest Brown, expressed Britain's gratitude to those American doctors who generously gave their services to Britain during the early days of the war. He described how a number of American doctors came at their own expense and without remuneration to help in British general and special hospitals in the earliest days of the war, and more arrived after the collapse of France. British medical facilities were open to the United States forces when they began to reach Britain, and it was arranged that any service personnel and other American nationals needing treatment should be accommodated in British emergency hospitals. Five new fully equipped hospitals were given over to the Americans and eight hospitals to the Canadians by the Health Ministry. Mr. Brown said that arrangements have been made at St. Dunstan's for its hospital and training center to care for blinded American soldiers awaiting evacuation, while Americans would treat British casualties across the Atlantic similarly.

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ASCORBIC ACID (VITAMIN C) PLACED UNDER ALLOCATION CONTROL

Ascorbic acid (vitamin C) was placed under allocation control, December 15, through the issuance by the Director General for Operations of General Preference Order M-269. Development of the use of vitamin C in food and medicinal production for the armed forces was the primary cause for the action, as production was formerly geared to meet pharmaceutic needs. The present production does not meet current estimated requirements, and, although production capacity is being increased, demands for 1943 probably will be more than double the 1942 figures. Enough will be available, however, for essential civilian use. Vitamin C is used both by the armed forces and by civilians in the prevention and treatment of scurvy and other deficiency diseases caused by lack of sufficient quantities of this vitamin. The Quartermaster Corps is using large quantities in K and Jungle rations, and there is also a substantial demand for lend lease requirements. Sorbitol, recently placed under allocation control, is one of the principal raw materials needed for the production of vitamin C.

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STUDIES SUPPORT THE RULE TO OMIT DIABETIC PERSONS FROM DRAFT

Studies reveal that the present rule to omit diabetic persons from the Selective Service appears proper, Elliott P. Joslin, M.D., Boston, declares in the Medicine and the War section of *The Journal of the American Medical Association* for January 16.

He says that it is estimated that there are about 800,000 living persons with diabetes in the United States and that one might suppose that among them there would be many who could serve their country as members of the armed forces.

He says "both by arbitrary statistical estimates as well as by computations, based on an actual study and selection from a series of 8,500 persons diagnosed as having diabetes, that in the United States today the number of diabetic persons available for the Army or Navy lies between 4,500 and 1,800 men. With these figures in mind, the diabetic quota useful for military service is relatively so insignificant, the hazards which both the diabetic and the government would undergo if they were inducted are so great and the need for their services in civilian occupations, where they would be less exposed to complications, so apparent, that the present rule to omit them from the draft appears proper."

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AUTHORIZE CORPS OF PHYSICAL THERAPY AIDES AND OF DIETITIANS

The President has signed the bill (H. R. 7633) which authorizes the creation of a corps of physical therapy aides and a corps of dietitians in the Army of the United States. According to the *Army and Navy Journal* the members of these corps will come largely from physical therapists and dietitians now on duty with the medical department on a civil service status. The desire to send these women overseas and to protect their rights as belligerents is responsible, it is said, for the plan to give them military status. In general, military pay, including al-

lowances, will be the same or slightly more than civil service pay. The act authorizes a director of each of these corps with relative rank of major, with other members holding relative rank of captain, first lieutenant and second lieutenant. Pay of members of the corps would be the same as pay of regular army officers without dependents of the fourth, third, second and first pay periods.

★ ★

PAY OF ARMY AND NAVY NURSES INCREASED

The President has signed a bill (H. R. 7633) which increases the pay of army and navy nurses. As far as the act relates to nurses, it accomplishes two objectives: (1) it gives nurses pay of their relative rank and (2) it provides increased relative rank for some nurses. In explanation the *Army and Navy Journal* says that nurses and head nurses have relative rank of second lieutenant and will receive the pay of the first pay period ($1,800), together with allowances. Chief nurses have relative rank of first lieutenant and will receive the pay of the second pay period ($2,000) together with allowances. The new bill gives relative rank of colonel and pay for the sixth pay period ($4,000) to the superintendent of the army nurse corps. All ranks, in addition to base pay, will receive longevity at 5 per cent for each three years of service up to thirty years. A clause in the act protects some nurses who would have lost pay under the new act.

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NEW BRIGADIER GENERALS

Col. Albert W. Kenner of the U. S. Army Medical Corps has been promoted to brigadier general for his highly efficient work in North Africa. This is the officer to whom Brig. Gen. Larry McAfee, the assistant surgeon general, referred in his opening remarks in the first broadcast, December 26, sponsored by the American Medical Association in the present radio program entitled "Doctors at War." Among other things, General McAfee said "I cite with keen pleasure the fact that one of the senior surgeons of the North African task force was promoted to brigadier general in recognition of his highly efficient operation of the medical field service in the face of greatest difficulties." General Kenner was born in Massachusetts in 1889, was awarded a Ph.D. in 1910 and an M.D. in 1915 at George Washington University, and graduated from the Army Medical School in 1917, in which year he was commissioned in the medical corps. He has been awarded the Distinguished Service Cross, the Silver Star and the Purple Heart.

Col. Fred W. Rankin, M.C., President of the American Medical Association, senior consultant in surgery, and Col. Hugh Jackson Morgan, M.C., senior consultant in internal medicine in the office of the Surgeon General, Washington, D. C., have been created temporary brigadier generals.

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AVIATION MEDICAL EXAMINERS

Graduation exercises were held recently at the School of Aviation Medicine in Texas for another class of aviation medical examiners. The didactic portion of this course was conducted in Texas and the practical portion at three army air forces classification centers elsewhere. A list of graduates of this class from Illinois are:

Edmund R. Adler, 1st Lieut., Chicago
George P. Ballard, Capt., Chicago
Arnold Black, 1st Lieut., Chicago
Theodore R. Marquardt, 1st Lieut., Lombard

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THE ARMY FLIGHT SURGEON

The flight surgeon today, as described by Brig. Gen. David N. W. Grant, A. U. S., air surgeon, Army Air Forces, in the *Army and Navy Journal* of January 2, is an integral part of the Army Air Forces; that is, of air research and development, of every combat unit, of every air evacuation unit and of the paratroopers. The flight surgeon plays a major role in the development and maintenance of *esprit de corps* and morale among the personnel of the army air forces. He has developed methods for selecting from the youth of America those whose aptitude for flying is greatest. He preserves and conserves manpower of the air forces at maximum efficiency, through the supervision of a carefully studied and specially constituted application of preventive medicine. He is responsible for the restoration of combat casualties to active health.

General Grant continues: The supercharged high powered motor which enables aircraft to fly at altitudes of 40,000 feet has introduced

the complex problem of anoxia. Above 10,000 feet there is insufficient oxygen for normal physiologic requirements. Above 20,000-25,000 feet life cannot be maintained without the use of accessory oxygen equipment. At 40,000 feet it is impossible for the human being, even when breathing pure oxygen, to live without using pressurized breathing equipment. Thanks to the development of the oxygen mask and regulators, our air combat forces are now operating routinely and safely in the vicinity of 35,000 feet.

Motion sickness, referred to in the air forces as "air sickness," has been a serious problem. The aviation cadet who repeatedly becomes airsick must be eliminated. Air borne troops are unable to fight after parachuting to earth if they are airsick. Prevention and control of airsickness are subjects of extensive research. Selection tests are now being developed so that potentially airsick individuals will not be accepted for training. The use of special ear tests and the correlations of swing sickness with airsickness have revealed valuable facts about the inner ear which may help in the solution of this problem.

The intensity of aircraft motor noise, the loudest known to man, has been a difficult problem. Even the loudest thunder cannot be heard while flying. Noise of this magnitude produces a definite, though limited, impairment in a part of the range of auditory perception. Owing to the shape of the ear and ear canal, it has not been possible to design an ear phone which will satisfactorily exclude motor and propeller noise. The ratio of motor noise intensity to signal intensity has not yet been sufficiently reduced to permit ideal radio communication.

Air evacuation of wounded soldiers from the front lines to large surgical hospitals in the rear is one of the great advances of medical care in this war. The speed and ease of air evacuation establish a higher level of morale among troops. The flight surgeon is therefore charged with many responsibilities. He practices a highly specialized form of applied preventive medicine and assists in the development of equipment to increase the pilot's physiologic performance. He must basically be a good doctor, counselor and friend and, if the personnel under his jurisdiction become sick or wounded in combat, he sees to it that they receive adequate and prompt attention.

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BLOOD PLASMA RESERVES

The Office of Civilian Defense, Washington, D. C., issued Circular Medical Series No. 25 on December 21, which was as follows:

Plasma reserves are now available in every civilian defense region for use in the event of casualties resulting from enemy action or sabotage. The regional medical officer will keep all chiefs of Emergency Medical Service, hospitals and Red Cross disaster relief chairmen informed concerning the amount and distribution of plasma reserves available in the state, and how localities may secure additional supplies in emergencies. In cities where reserves are stored they may be obtained by hospitals through the local chief of Emergency Medical Services. If a community is without plasma or if its supplies are depleted, the local chief of Emergency Medical Service may obtain additional plasma in emergencies from the state chief of Emergency Medical Service. These instructions should not be construed to prevent the use of this plasma for life saving purposes in any disaster. If Office of Civilian Defense plasma is used in non-war related incidents, its use may be considered as a loan, and arrangements may be made later for its replacement.

The Office of Civilian Defense, Washington, D. C., reported on December 29 that civilian reserves of blood plasma large enough to meet the requirements of more than thirty disasters as great as the recent Boston night club fire have been established at strategic locations throughout the country and are being added to constantly under the joint program of the Public Health Service and the Office of Civilian Defense.

As of December 1 there were 50,742 units of prepared plasma in its emergency reserves. Several thousand units have been added during the month, and the full quota of 133,130 units is expected to be reached within a few months. A unit is the amount of plasma obtained from 500 cc. of blood and is sufficient for transfusion. The victims of the Boston fire required about 1,500 such units.

Although the reserves established under the blood plasma program of the Office of Civilian

Defense are intended primarily for the protection of civilian casualties resulting from enemy action, they are available for saving lives in any disasters.

Liquid plasma reserves are maintained in more than a hundred and fifty hospitals which have received grants of federal funds for processing and storing plasma. Each of these hospitals maintains a reserve of at least 1 unit of plasma for each bed in the hospital. These will soon total at least 63,130 units.

In addition, a number of hospitals which did not require grants for equipment are setting up plasma banks which will comprise an additional reserve of about 50,000 units for local authorities in case of emergency.

Frozen plasma has been obtained through the Army and Navy from blood collected by the Red Cross in excess of immediate service requirements. It is stored by the Office of Civilian Defense in refrigeration depots in important hospitals in the area if needed. A quota of 29,500 units of frozen plasma has been obtained for this purpose. Finally, 50,000 units of dried plasma is being stored in centrally located depots. Most of the plasma reserves are concentrated in the areas where enemy air raids are deemed most probable. Deposits are also maintained in inland regions.

In Boston at the time of the night club fire there were on hand in the city almost twice as many units as were required for treatment of victims of that disaster. More than 75 per cent of those hospitalized as the result of the fire required administration of some plasma. The superintendent of the Boston City Hospital estimated that it saved the lives of at least 75 persons who were treated there.

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WAR MEDICINE TO BECOME A MONTHLY

Starting with the January 1943 issue, *War Medicine,* published by the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council, will become a monthly periodical. Since its inception in January 1941, it has been bimonthly.

AMA HOUSE OF DELEGATES MEETS JUNE 7

The House of Delegates of the American Medical Association will convene in Chicago on June 7, 1943, *The Journal* of the Association reports in its January 2 issue. This meeting will take the place of the ninety-fourth annual session of the Association, originally scheduled to convene in San Francisco in 1943.

On September 26 it was announced that the San Francisco session had been canceled because of the war demands on the time of American physicians, as well as the transportation problems involved. This cancellation is the third time in the history of the Association that such an action has been taken, the other two times in 1861 and 1862, during the Civil War.

The many significant problems confronting the medical profession because of the war, particularly those concerning the provision and distribution of physicians and the provision of medical services for the nation's civilian and military needs, will highlight the problems to be considered by the House of Delegates at its meeting in Chicago next June.

RICE JOINS LEDERLE STAFF

Dr. John L. Rice, 1942 president of the American Public Health Association, and former Commissioner of Health of New York City, has joined the staff of Lederle Laboratories, Inc., as consultant, according to an announcement made by the company. Dr. Rice will advise on developments by the Lederle research organization related to public health, the field in which he is an eminent authority.

Lederle Laboratories was founded in 1906 by another New York City Health Commissioner, Dr. Ernest J. Lederle. It is a leader in fields of sera, vaccines and related medicinal products, used in public immunization programs, and of chemotherapy. Its developments of 1942 included, among others, a vaccine and a serum for treatment of Rocky Mountain spotted fever, Hemostatic Globulin for quick staunching of the bleeding from small wounds, testing sera for typing and grouping human blood, new forms for the wider application of sulfadiazine (originated by Lederle research), an effective treatment for ivy poisoning, and a refined vaccine for treatment of equine encephalomyelitis in humans.

Original Articles

FETAL DISTRESS DURING LABOR

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MADISON, WISCONSIN

The human fetus is one of the arch-isolationists of all time. Its barriers have for many years been a protection against aggression, especially scientific aggression. Within the past ten years obstetricians and physiologists have begun an invasion of this fortress of development. But, before we consider some of the newer developments let us evaluate a few of the results of the isolationist policy of the fetus, particularly those facts resulting from a comparison with the less confined, newly born infant.

The Children's Bureau of the United States Department of Labor[1] in their study of infant mortality made the following observations: 1—Infant deaths under one year were cut in half between the years 1915 and 1937. 2—Deaths under one month were reduced by 25 percent during the same period. 3—Infant deaths under one day remained unchanged. 4—The incidence of stillbirths was reduced only 15 percent from 1922 to 1936. There has been a tendency by many to accept these deaths as something inevitable and predestined, yet the fact that several large maternity services have reduced their stillbirths and neonatal deaths by one-third is evidence to the contrary.[2]

In its ultimate analysis asphyxia implies interference with oxygen supply and carbon dioxide removal and thus in the broadest sense may be said to be the actual cause of all deaths. Nevertheless, oxygen want has been found to be primarily responsible for about 25 to 50 percent of all stillbirths. Aside from death we now realize that permanent damage to the central nervous system may result from asphyxia. Although this is not a common occurrence one need not look far for confirmation. The ease with which the accident may happen is well illustrated by the following example. A patient, not in labor, was having an elective cesarean section because of a contracted pelvis. During the procedure certain technical difficulties of anesthesia resulted in maternal respiratory obstruction. Although this condition existed for no more than ten minutes prior to delivery the infant was severely asphyxiated at birth. After active artificial resuscitation for 30 minutes the infant breathed spontaneously but its subsequent course was most unsatisfactory. Hemorrhagic spinal fluid was obtained upon diagnostic lumbar puncture. This undoubtedly was indicative of the characteristic petechial hemorrhages which follow asphyxia inasmuch as delivery was without trauma. Subsequently there were signs of progressive mental deterioration and the child was eventually placed in an institution for the feebleminded. An encephalogram demonstrated the presence of cortical atrophy.

The present consideration of fetal distress will be limited to a discussion of those factors which act primarily by creation of oxygen deficiency. Excluded will be such important factors as developmental defects, trauma of birth, infections

From the Department of Obstetrics and Gynecology, University of Wisconsin Medical School, and the State of Wisconsin General Hospital. Presented before the joint meeting of the Sections on Public Health and Hygiene and Pediatrics, 102nd annual meeting, Illinois State Medical Society, Springfield, May 21, 1942.

and others. Anoxia is a loosely applied term indicating oxygen deficiency of an unspecified degree. The more appropriate term hypoxia describes the condition with greater accuracy. However, our existing classifications have been made using the term anoxia and this discussion will continue this practice. There are four commonly recognized types of anoxia.

1. Anoxic anoxia — this implies a deficiency of oxygen saturation of the blood, usually due to failing or inefficient respiration.

2. Anemic anoxia signifies that the oxygen carrying capacity of the blood is diminished.

3. Stagnant anoxia indicates that there is less than a normal amount of blood circulating.

4. Histotoxic anoxia involves the inability of a given cell to utilize oxygen even though it is present in normal amounts.

Admittedly, we know neither the amount nor the duration of anoxia necessary to produce undesirable sequelae in the human fetus or the newly born. The physiologists are now of the opinion that oxygen requirements of the fetus are relatively small[3] and in experimental animals the fetal survival time under anoxic conditions greatly exceeds that of older animals.[4,5] The situation, as it exists in the human fetus, has not been solved. Nevertheless, these lacunae in our factual knowledge should not encourage us to overlook the dangerous potentialities of oxygen want. A clinical incident illustrating this fact is of interest. A primipara, near term, was hospitalized because of a severe toxemia of the hypertensive cardio-vascular type. One evening this patient developed severe acute pulmonary edema. The fetal heart tones, which had been normal at the onset of this condition, were absent 12 minutes later in spite of almost immediate oxygen therapy. In this instance the anoxia was sufficient to destroy the fetus but not the mother and the stillborn infant was delivered some time later.

The presence of two patients, mother and child, doubles the complexity of this problem in pregnancy. The failure of oxygen supply may occur at any point along the transportation system which includes the mother, placenta and fetus. The first point of failure may be in the mother. The atmosphere which she breathes may be deficient in oxygen, a condition most commonly encountered during the administration of inhalation analgesic or anesthetic agents; more specifically with the improper use of certain agents such as nitrous oxide and ethylene in high concentrations without adequate amounts of oxygen. Obstruction of the respiratory passages is a common cause of difficulty. The relaxation of pharygeal muscles during deep narcosis or anesthesia may cause respiratory obstruction and evidence or snoring or sterterous respiration should be considered as a potential danger signal. Excessive mucus, even though of common occurrence, should not be lightly considered. One of the most common and most dangerous of all obstructions follows the aspiration of vomitus, a hazard not only for the fetus but also for the mother.

Metabolic diseases and increased metabolic activity contribute to anoxia. Hyperthyroidism, diabetes, hyperpyrexia, excessive excitement and activity during labor — notably during the second stage, are typical examples. Anemia, hemorrhage and shock are common etiologic factors of anemic anoxia which are frequently seen. Maternal heart failure, as we shall subsequently consider, may readily produce fetal anoxia. Our knowledge of histotoxic anoxia is as yet limited so further discussion is of little value. Disturbances of uterine and placental circulation may produce oxygen want. We can not in a limited time discuss the physiological significance of blood flow through the uterus and placenta to the fetus. It has been shown[6] that uterine contractions actually enhance fetal circulation. This seems to be another example of the old maxim "a little bit is good but too much is dangerous" for we have repeatedly observed signs of fetal distress in patients in whom the uterine contractions were excessively frequent or prolonged. You are all aware of the fate of the infant in a tetanically contracted uterus whether produced spontaneously or by oxytocics. Abnormalities of the placenta such as a premature separation or placenta previa frequently result in asphyxia or death of the fetus.

All of the factors which have been mentioned lead to anoxic anoxia of the fetus; i. e. incomplete saturation of fetal hemoglobin. Similarly any partial or complete obstruction of the umbilical cord may result in development of anoxic anoxia. It is theoretically possible to have the other types of fetal anoxia. Anemic anoxia occurs in certain blood dyscrasias such as

erythroblastosis, or following rupture of the fetal blood vessels. Stagnant anoxia may be occasionally seen in utero when the infant has congenital heart disease. Any drug causing a marked depression of the fetal circulation and fetal heart rate might result in stagnant anoxia. Finally we come to histotoxic anoxia of which we know little except that certain drugs or agents may act upon the cell so that it is incapable of normal metabolism.

Little has been said about carbon dioxide. We know that asphyxia implies accumulation of carbon dioxide as well as oxygen deficiency. It is unfortunate that our knowledge of carbon dioxide is meager, especially when we recall that the gas is a severe depressant in high concentrations.

We have heard and read much about the effects of analgensic and anesthetic agents on asphyxia. No one can deny their role in the production of asphyxia neonatorum yet it is interesting to note that they are usually only indirectly involved in the producton of fetal asphyxia. These agents may produce fetal distress in three ways. First and foremost they may produce maternal oxygen want either by respiratory obstruction or by the reduction of available oxygen in the atmosphere. Secondly, they may depress the fetal circulation directly yet we have evidence that none of the common drugs and gases, with the possible exception of cyclopropane, are capable of this. Finally, they may produce histotoxic effects.

The diagnosis of fetal asphyxia is not always easy. There are three signs commonly considered. *Excessive fetal movement* has been said to indicate fetal distress — at best this is an elusive if not delusive sign. Our studies suggest that the fetus is usually quite active during early labor but it becomes more quiescent as labor progresses. Furthermore, excessive movements are usually agonal in nature when indicative of fetal distress. The *presence of meconium* is a sign of questionable value and to be worthy of consideration certain conditions must be fulfilled: 1—The membranes, obviously, must be ruptured. 2—The presentation must be cephalic. 3—The meconium must be fresh, and 4—The mother should not have had drugs such as quinine for the induction of labor. At present we do not give serious consideration to either of these two signs provided that fetal heart rate is normal.

The fetus in utero leads what might be called a circulatory existence. If given an intact cardio-vascular system, even in the presence of gross developmental anomalies, the fetus usually survives until extra-uterine life begins. The integrity of the respiratory system seems to be of minor importance for intra-uterine survival while at the moment of birth respiratory functions become vital.

The *rate and rhythm of the fetal heart* give us the most satisfactory and direct clinical method for constant evaluation of the fetus during labor. Because of the sensitivity of the fetal cardiac centers to oxygen want we can use the fetal heart rate as a reasonably reliable indicator of fetal oxygenation.

The normal fetal heart rate is commonly stated as 140 and rates of 120 or 160 have been generally considered to be within the extreme limits of normal. A detailed study of several hundred individuals throughout labor has lead us to modify this statement somewhat. For example; during the past month we have observed one patient in whom the fetal heart rate throughout labor never exceeded 118 beats per minute. A few days later another fetus was studied in whom the rate was never below 165 and averaged about 170 beats per minute. Neither of these infants gave any indication, at birth, of having had fetal asphyxia. These and other studies suggest that most infants in utero have an individual, basic heart rate. It is true that many factors cause temporary changes in that basic rate. Time does not permit a discussion of these at present. However, notable examples include acceleration of the pulse following active fetal movements; acceleration or slowing of the rate may be associated with uterine contractions; arrhythmias may follow pressure — a typical example is pressure on a fontanelle during vaginal examination. One common charateristic of all these changes is the failure of the arrhythmia to persist.

In the adult the first cardiac sign of oxygen want is usually an acceleration of the pulse. If this deficiency persists or increases the point of "oxygen crisis" is reached and reversal takes

place. Reversal is characterized by a marked slowing of the pulse in the adult and it is a common belief that a similar condition exists in the fetus. After many observations we have failed to find conclusive evidence that the fetal heart rate accelerates under conditions of anoxia. The characteristic fetal cardiac response to oxygen deficiency may be: 1—A rather sudden decrease in the rate, usually from 30 to 40 beats per minute, which persists throughout uterine contractions and the subsequent intervals, or 2—a gradual or irregular slowing of the rate over a period of three or four minutes to a level below 100. Bancroft[7] made similar observations in sheep — sudden clamping of the cord resulted in an immediate slowing of the fetal heart rate; however, with the vagi cut a true anoxic slowing of the fetal heart was observed 45 seconds after the cord had been clamped.

Frequently one can be certain of the diagnosis by the therapeutic test of oxygen administration. If the fetal heart rate shows improvement, that is acceleration within five minutes following administration, the diagnosis was probably correct. There are obviously certain types of irreversible anoxia that can not give this response, separation of the placenta and complete occlusion of the cord are two typical examples.

A consideration of treatment must include the problem of prophylaxis. Any complication of pregnancy or labor which may endanger the oxygen supply of the fetus should be corrected. If this is impossible the immediate duty of the obstetrician is to anticipate fetal asphyxia and be prepared to diagnose and treat it. Emesis during delivery is a problem which must be managed properly and quickly. This disagreeable and annoying complication is not only common but also exceedingly dangerous for mother and baby. In case there is any doubt in your minds I suggest that you listen carefully to the fetal heart tones the next time you observe a patient with respiratory obstruction from aspirated vomitus. Immediate removal of all foreign material from the respiratory tract and administration of oxygen are imperative.

Administration of atropine, gr. 1/150, or one of its derivatives, an hour or two before expected delivery may prove to be "good insurance" against the annoying and dangerous complication excessive mucus. This is of added importance when the obstetrician anticipates an operative delivery under general anesthesia.

Active treatment of fetal asphyxia has, in the past, usually consisted of dragging the asphyxiated infant out of the uterus by the heels or with forceps. The depressed centers are further depressed by general anesthesia and trauma. Frequently overlooked is the more subtle and less traumatic method of bringing the oxygen to the infant by the administration of this gas to the mother. Elaborate equipment is unnecessary for such treatment, the minimum being a tank of oxygen, a reducing valve and a rubber tube. The addition of a face mask is helpful. 100 percent oxygen may be given continuously or if inhalation analgesia is being used the oxygen should be administered with the agent and during the interval between contractions as well. Such treatment is exceedingly simple and will relieve a large number of distressed babies.[8]

The success of oxygen therapy may be measured by the improvement of the heart rate. Response is usually rapid but unless notable improvement in the fetal heart rate is present within five to ten minutes one may assume that oxygen administration will be of no value. It is apparent that such a procedure does not increase the hazard for the infant inasmuch as at least five or more minutes usually elapse during the preparations for delivery. If the heart fails to improve exigent delivery is indicated when possible. If the heart improves, labor may be allowed to proceed in a normal manner.

We are, at present, very hesitant in performing any type of operative delivery while the mother and fetus are in acute oxygen want. As a general rule we treat the oxygen want first and then proceed with delivery. Certain qualifications of this statement are necessary — if the existing anoxic state is obviously irreversible there is no justification for unnecessary delay, or if fetal asphyxia is impending or developing at a moment when delivery is about to be completed there should be no delay in completing the delivery.

Occasionally a general anesthesia of the mother may be of great assistance in improving the fetal heart rate, particularly when uterine contractions

have been unusually vigorous. When such a procedure is contemplated the anesthetic agent of choice should be one which permits a high concentration of oxygen such as ether or cyclopropane.

Finally, at the moment of birth an important bit of technic may be of benefit to the baby. Immediately after the head has been born the anesthetist can give the mother oxygen in high concentrations and this procedure should be continued until the cord has ceased pulsating or until the infant has breathed. This is the last effort that we can make to insure the maximum oxygenation of the infant as it begins its extrauterine life.

CONCLUSIONS

Primary oxygen want is responsible for many fetal deaths. In addition anoxia may produce temporary or permanent damage to vital centers within the central nervous system. Temporary anoxic depression of the respiratory center is a factor in the production of neonatal asphyxia.

Fetal asphyxia is best recognized by a sudden or gradual slowing of the fetal heart rate. This sign is of greater diagnostic value than are those of excessive fetal movements or the presence of meconium.

In many instances the anoxia is reversible and can be successfully treated by administration of oxygen to the mother. An improvement of fetal heart rate indicates successful therapy. Other therapeutic measures sometimes indicated include deep anesthesia, administration of atropine and "flushing" the mother with oxygen at the moment of birth.

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RESPIRATORY DISTURBANCES IN THE NEWLY-BORN INFANT

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The respiratory system of the newly-born infant is one of the most delicately balanced mechanisms of the body and is the one whose function is most immediately vital to the maintenance of life. In the other body systems a short space of time may elapse while adjustments are being made to an extrauterine existence and if activity does not begin immediately a period of safety exists which permits a subsequent establishment of function. The lungs, however, have no such allowance, for there are no available oxygen stores in the body, and when placental circulation is interrupted, the lungs must immediately replace the placenta as a source of oxygen.

In the normal infant respiration is initiated within a few seconds after birth, and breathing continues uninterruptedly as long as life lasts. If the infant does not breathe immediately, inhibition is usually due to a pathiologic state induced by disturbances in the intrauterine environment or by the processes of labor. In rare instances it is the result of an abnormality of the fetus itself.

Respiratory abnormalities which occur after breathing has once been normally established are less frequently encountered than is an initial interference with respiratory function. The causes of such disurbances are usually more difficult to determine than are those effective immediately after birth and often an entirely satisfactory explanation cannot be given; even here, however, delayed effects of abnormalities of the intrauterine environment are the most common etiologic agents.

Whether respiration after birth is a continuation of a process initiated during intrauterine life, or whether it is an entirely new activity undertaken for the first time after delivery has been accomplished has not been definitely established. Reasoning from an analogy of the function of other organs one would expect some

From the Department of Obstetrics and Gynecology, the University of Chicago and the Chicago Lying-in Hospital Presented before the joint meeting of the Sections on Public Health and Hygiene and Pediatrics, 102nd annual meeting, Illinois State Medical Society, Springfield, May 21, 1942.

type of respiratory movement to occur while the fetus is still within the uterus. All other organs are carrying on processes similar to those existing after birth; the fetus swallows, the digestive secretions are being produced, peristaltic activity is present in the intestine; the kidneys secrete urine; blood flows in a continuous channel through heart and blood vessels; the brain is immature, but, insofar as the stage of development permits, its action is similar to that existing after birth. It is possible, on the other hand, to argue that the activity of all organs other than the lungs, is purposeful and that respiratory movements would not only be useless while the fetus is in a fluid medium, but that fluid within the alveoli would be actually deleterious following delivery.

An attempt has been made to determine experimentally whether or not respiratory movements occur normally while the fetus is still unborn but as yet no method has been devised which yields conclusive proof. That respiratory movements can and do occur in such animals as the sheep, rabbit and guinea pig has been shown by Barcroft, Snyder and Rosenthal and others. Windle and others question the statement of the experimenters that the conditions under which such movements have been shown to occur are comparable to the normal intrauterine environment. They believe that experimental conditions have sufficiently altered the situation so that a response is obtained which would not occur if all relationships were entirely normal.

It is well known that a human fetus may inhale amniotic fluid before birth, for in many stillborn fetuses and in infants surviving only a short time, varying amounts of debris containing epithelial cells desquamated from the surface of the body into the amniotic fluid are found in the pulmonary alveoli. Such debris is at times entirely absent but is almost invariably found in greatest amounts when death has been caused by anoxia. As a result of these observations, it has long been believed that respiratory movements do not occur normally in utero, but result from a stimulation of the respiratory center in the brain caused by a decrease in oxygen tension. That to and fro movement of fluid within the lungs is definitely not necessary for normal alveolar growth, as has been believed by some investigators, is shown by those cases in which normal growth occurs despite tracheal occlusion or loss of continuity in parts of the bronchial system.

That it is possible for amniotic fluid to enter the lungs of a fetus in utero can be definitely shown; that it is normal for this to occur, and that it is part of the intrauterine activity of every fetus, has not been proven. Consequently it is still impossible to state whether the establishment of respiration is a continuation of intrauterine breathing or whether external stimuli produce it for the first time after birth.

The conditions which may decrease the oxygen available to the fetus while it is still within the uterus and which may be sufficient to cause death of the fetus before delivery, or which may be sublethal and may injure without killing, can be divided into four principal groups: ——those which decrease the oxygen in the maternal blood cells (severe anemia, poisoning which results in the production of methemaglobin, gaseous anesthetics which decrease the available oxygen, especially as in the high concentrations of nitrous oxide); 2—those which decrease the amount of circulating maternal blood (shock, hemorrhage); 3—those which interfere with circulation of maternal blood within the placenta (premature detachment of the placenta, either in its normal location or in association with placenta previa, massive infarction of the placenta) and 4—those which prevent passage of fetal blood through the umbilical cord (prolapse or entanglements of the cord, rupture of a vessel with resultant hematoma of the cord). An additional group includes those rare instances where a fetus becomes exsanguinated as a result of rupture of a fetal blood vessel (usually a vessel leading to the cord when the placental insertion is velementous), or from rupture of fetal vessels produced by laceration of the placenta in a central placenta previa with delivery through the vagina.

If an infant is born with heart beating but with respiration delayed or never established any of the above conditions may be responsible. Oxygen lack produces a progressive injury which is proportionate to the degree and duration of deprivation. If birth occurs, and a new source of oxygen is found in the lungs, injury may be

arrested and in some instances recovery doubtless occurs. If oxygen is not available until irreparable damage has been done, death will follow or permanent cellular injury will exist.

During the process of labor a new group of conditions is brought into play which may cause interference with respiration after birth. All of the causes of primary oxygen deprivation may still function during this interval, but in addition, trauma involving the brain may result in the production of simular abnormalities. Unduly prolonged pressure of the uterine musculature on the fetal head, the passage of the head through a bony pelvis whose size is inadequate or to which the head is insufficiently molded, or the exertion of undue pressure on the head by various operative procedures may all result in hemorrhage into the brain substances, into the cerebral ventricles, or into the extracerebral space. This may be of sufficient extent to cause death immediately, or it may result in an injury to the respiratory center which will inhibit respiration and eventually produce death from asphyxia.

Following birth a third set of factors is brought into play as a causative agent in producing disturbances in respiration, either in the initial establishment of breathing, or in its subsequent maintenance. These involve the physical state of the infant itself and are causes primary in its body, in contrast to those which affect it earlier and are secondary to external influences. They may most easily be divided into those which interfere with the nervous control of respiration, and those which prevent the aspiration of air into the alveoli. The latter may, in turn, be sub-divided into conditions in which air cannot enter because of occlusion of the trachea, bronchi or alveoli, and those in which expansion is prevented by external pressure.

The respiratory center in the brain may be inadequately developed as a result of prematurity or malformation. Prematurity does not ordinarily seem to interfere with the initial establishment of respiration, for fetuses not yet arrived at the stage of viability make spontaneous attempts at respiration, and few of the viable prematures who have not been adversely affected by extrinsic factors fail to breathe immediately after birth. The subsequent disturbances which are commonly observed among premature infants are largely due to immaturity or abnormality of the lungs rather than immaturity of the brain. Malformations such as anencephalus, hydrocephalus and basal encephaloceles are associated either with complete lack of development of the respiratory center or with distortion of tissue sufficient to cause destruction of cells or inhibition of function. Depression of the respiratory center as a result of intrauterine anoxia, transmission of depressant drugs across the placenta, and pressure from traumatic hemorrhage are, as previously mentioned, secondary conditions which may affect the brain and cause an initial inhibition or subsequent interference with respiratory activity.

Conditions primary in the pulmonary tree which may inhibit or alter respirations are: 1—malformations including cartilaginous obstruction of the trachea, and hypoplasia of the lungs; 2—occlusion from aspirated debris either as a result of plugging of the trachea or bronchi, or filling of the alveoli; 3—occlusion from material extruded into the alveoli, as from leucocytes and fibrin in pneumonia or pulmonary hemorrhage in anoxia; 4—rupture of alveoli during artificial resuscitation with consequent collapse of alveoli from bullous emphysema or pneumothorax; 5—incomplete development of the alveoli.

Although all of these conditions are observed fairly frequently, the one most commonly observed in relation to respiratory difficulty is immaturity of the lung parenchyma. Early in fetal life the alveoli are lined by a continuous layer of cuboidal cells and all blood vessels lie in the subjacent connective tissue and mesenchyme. Toward the middle of pregnancy capillary outgrowths from the underlying vessels begin to penetrate the alveolar walls, push apart the cells which originally formed a continuous covering, and become small knuckle-like protuberances one side of which is in direct contact with the alveolar lumen. As pregnancy progresses capillary ingrowth becomes more and more marked and by the end of forty weeks proliferation has proceded to such an extent that the original cells remain only to occupy small areas between the capillaries. If birth occurs before a capillary bed has been produced which is

sufficient to permit oxygen carbon-dioxide exchange at a rate which will permit the maintenance of body processes, death will inevitably ensue. The very immature newly-born infant appears to be able to survive for a few hours even though it is obtaining very little oxygen and it is only after some time that oxygen deprivation causes a fatal outcome. It is the immaturity of the lung that is the primary cause of most of the deaths among previable and very premature fetuses.

Occlusion of the trachea as a result of malformation of the arytenoid and thyroid cartileges is a condition not frequently observed but one which we have seen in two infants who were otherwise normal. Tracheotomy would doubtless have saved the lives of these infants had the condition been diagnosed at birth.

Debris derived from amniotic fluid and present in the trachea, bronchi or alveoli is rarely found in amounts sufficient to prevent maintenance of life, but in combination with hemorrhage or cellular exudation large areas of pulmonary tissue may be obstructed. Pulmonary hemorrhage is usually a result of capillary injury induced by anoxia; as hemorrhage progresses anoxia increases and a vicious cycle results. A cellular exudate composed largely of polymorphonuclear leucocytes may begin to form while the fetus is still within the uterine cavity, and may be sufficient to prevent initial expansion of the lungs, or it may progress in the hours immediately after birth and may cause subsequent respiratory difficulty. Such a process is frequently associated with premature rupture of the amniotic sac or prolonged labor. Either condition permits the entrance of bacteria into the amniotic fluid and subsequently into the lungs. Occasionally however a similar pneumonic process is present even though the membranes remain intact until the time of delivery.

If an infant fails to breathe spontaneously after birth some form of artificial resuscitation must be instituted. The old methods of swinging, spanking, immersing in hot and cold water, dilating the anal sphincter and other equally barbaric performances have fortunately almost completely disappeared. All of these procedures tended to aggrevate whatever condition was responsible for failure to breathe, instead of remedying it, and if the infant survived it was usually in spite of the treatment rather than because of it. The more rational methods of resuscitation consist in freeing the mouth and trachea of mucus and amniotic fluid and in introducing oxygen, or air, if oxygen is not available, into the lungs. Even the latter is not without danger, however, and great care must be exercised to keep the pressure low enough to prevent alveolar rupture. If air escapes into the interlobular spaces or into the pleural cavity, sufficient pressure will often be exerted to cause complete collapse of the alveoli and death may result from the very procedures which were used in an attempt to avert it.

The group of conditions which prevent expansion of the alveoli as a result of external pressure, (exclusive of the leakage of air), are, for the most part, the result of abnormal development. A defect of the diaphragm which permits abdominal viscera to lie in the thoracic cavity not only prevents lung expansion after birth, but interferes with earlier development by exerting pressure throughout the intrauterine period. Even if the viscera could be removed and the defect repaired the lungs are often insufficiently developed to support life.

Massive pleural effusions may be sufficient to prevent respiration; idiopathic cardiac hypertrophy, although rare, may produce a heart which fills the thoracic cavity so completely that the lungs cannot expand Upward pressure on the diaphragm by polycystic kidneys or peritoneal effusion may also be sufficient to interfere with respiration.

In addition to all of the conditions described above which cause respiratory difficulties, there is one syndrome, not commonly recognized which usually makes its first appearance a few hours after birth. It is most common following birth by Cesarean section although it occasionally accompanies other methods of delivery. The infants usually breathe spontaneously and appear normal for a few hours. Subsequently respiratory distress gradually makes its appearance. Costal retraction, irregular or shallow breathing, variable cyanosis, muscular twitching, and even convulsions may occur. The infants survive, at times, but when death follows, the only pathologic lesion that we have observed in the

majority of these infants, is an increase in cerebro-spinal fluid within the subarachnoid space around the brain. Clifford believes this fluid is the result of anoxia and has described it as occurring in infants who were delivered by Cesarean section because of maternal hemorrhage from placenta previa. We have not observed it in the great majority of infants who have had definite evidence of intrauterine anoxia and believe, in our series at least, it is definitely related to delivery by Cesarean section, rather than to the condition for which the operation was performed. The actual mechanism by which it is produced and any method of prevention are both unknown. Death appears to result from increased intracranial pressure.

A clinical diagnosis of congenital atalectasis is frequently made on those infants who exhibit respiratory distress during the first few days of life, and in some instances x-ray examination may show areas of incompletely aerated lung. Atalectasis, however, is only a symptom of some underlying abnormality and a primary inability of normal lung to expand does not exist. To put atalectasis on a certificate as a cause of death, as is so frequently done, is equivalent to saying the diagnosis is unknown.

SUMMARY

Interference with respiratory activity either in its primary establishment or in subsequent maintenance is due largely to abnormalities which result from environmental conditions. These may have existed prior to birth, during birth, or may occur after birth. Less frequently they may be due to lesions intrinsic in the fetus.

Anoxia having its inception in utero may result from a decrease in the oxygen content of maternal blood or in the total amount of maternal blood reaching the placenta; from interference with oxygen exchange between maternal blood and fetal blood within the placenta; from interruption of the circulation between the placenta and the fetus. During birth anoxia may be produced by any of the above conditions and in addition, by trauma which causes intracranial hemorrhage and produces injury to the respiratory center. Following birth the initial establishment of respiration may be inhibited, or breathing may subsequently become arrested either from the late effects of previously induced anoxia or from conditions intrinsic in the fetus and functioning for the first time after birth. The latter include immaturity or maldevelopment of the respiratory center, immaturity of maldevelopment of the pulmonary alveoli, occlusion of the trachea, bronchi or alveoli by amniotic debris, hemorrhage or leucocytic exudate, prevention of alveolar expansion by external pressure as in pneumothorax, diaphragmatic hernia, pleural or peritoneal effusions, excessive cardiac hypertrophy, and polycystic kidneys. Abnormal breathing, usually making its first appearance a few hours after birth, may be associated with increased cerebro-spinal fluid within the subarachnoid space, and is most often found following birth by Cesarean section. The condition may be fatal or recovery may occur.

DISCUSSION ON PAPERS OF DRS. LUND AND POTTER

DR. Orville Barbour,[1] Peoria: — By applying the principles which are so ably presented by the essayists, to the care of the pregnant woman and the new-born, one may contribute to the health of the mother and the child. The more universally these principles are applied, the lower should maternal and infant mortality and morbidity rates become.

As a practicing pediatrician, I have seen the value of maintaining constant alertness as to the oxygen needs of the new-born. If one will be continually watchful for the signs of oxygen want in the new-born infant and will establish a program which is favorable towards supplying an adequate supply of oxygen when that need is indicated, the results are indeed gratifying to all concerned.

As a pediatrician, I can also see the prophylactic value of being oxygen minded during the obstetric care of the mother. If thereby oxygen deprivation of the fetus can be prevented, one may hope to see fewer tragic results of oxygen deprivation in the new-born child. Fewer deaths of infants, fewer cerebral hemorrhages, fewer cases with cerebral destruction and the sad results therefrom, constitute a most desirable goal, one which is well worth our best efforts.

Both essayists present many interesting, instructive, and thought provoking points, which tempt one to dwell upon them. But the time does not permit. There are just a few of which I shall take the opportunity of mentioning.

Dr. Lund points out the importance of metabolic disease in the mother as an etiological factor of anoxia in the fetus. This brings to my mind a common perplexing and as yet unsolved pediatric problem. I am thinking of the hypertonic infant. The one, who is jittery, who is likely to have gastro-intestinal colic, and perhaps pylorospasm. Although today we are more able to relieve these patients with active treatment, the

fact that they are still so prevalent, is eloquent evidence that their origin is still little understood. I am wondering if some investigation along the line of maternal metabolic disturbances might not prove fruitful. That is a problem which could well challenge the best efforts of those who are engaged in obstetrics. If the obstetricians were as much disturbed as are the pediatricians by the problems of the nervous colicky baby, they would need no urging to attempt it's solution.

The importance of the prophylaxis of anoxia is worth emphasizing by reiteration.

The idea of the therapeutic test of oxygen administration to the new-born as well as to the fetus is appealing. It seems a good safety first measure.

The suggestion of the administration of atropine to the mother raises a question in my mind. Having seen the occasional respiratory depressing effects of atropine in infants and older children, I am wondering about the possibility of such effects upon the fetus. I will appreciate Dr. Lund's enlightening me on that question.

I like the idea of supplying oxygen to the asphyxiated fetus through the mother. The better the condition of the baby at delivery, the less the therapeutic problem after birth, and what is more important the better the prognosis and the more hopeful the future of the child.

Dr. Potter has reviewed comprehensively the etiological factors which may produce anoxia in the fetus and the new-born. These include the indications for prophylactic and active treatment.

Probably the most important of the methods of resuscitation of the new-born is the aspiration of obstructing mucus, from the throat and trachea. Dr. Potter's caution against the use of undue force with the administration of oxygen is well put. Clifford and his associates have pointed out the dangers of the use of a respirator, in such instances. The incubator with controlled oxygen flow is probably as an effective as well as a safe method of oxygen administration to these patients as any.

The Boston and Detroit groups have also stressed the importance of establishing a favorable environment for affording the infant as adequate a supply of oxygen as possible. Disturbing the baby as little as possible, and not adding to its oxygen needs by feeding through the gastro-intestinal tract until the patient's condition has improved, are measures of contributing to it's welfare. The maintenance of a normal temperature, the exposure to an adequate supply of oxygen, and the parenteral feeding of essential fluids are methods which are conducive to the recovery of the asphyxiated new-born. With those infants who are abnormally active or nervous, or who may have some hyperpyrexia, moderate sedation with a barbiturate decreases the oxygen need and contributes towards a favorable outcome. If some stimulation of the respirations seems necessary, the hypodermic administration of a respiratory stimulant, such as coramine, or caffein, seems as effective as any method, and is surely safer than some forms of external stimulation. If, as Clifford and Cole have said, the asphyxiated new-born does not respond satisfactorily to this program, the chances are that he had no chance for a recovery from the destructive effects of the anoxia.

These are very timely papers. I appreciate the opportunity of discussing them.

DR. William F. Windle, Chicago: — I deem it a privilege to be permitted to discuss these two splendid papers. Thoughts expressed by both speakers are similar to those which have prompted me to undertake experimental studies in the hope that some of the questions regarding anoxia and its relation to the fetus at birth can be answered. One must be cautious in comparing experiments in animals with observations in man, but such fundamental processes as respiration would seem quite adaptable to this.

Until recently we have had no accurate knowledge of the structure of the fetal lung at the end of gestation. As Doctor Potter has told you, we were not sure that the fetus makes respiratory movements in utero in the normal course of development. Some investigators think it normally aspirates its amniotic fluid. It is of more than academic interest to know whether this is true or not. I believe we are in a position to answer this now as a result of experiments in the guinea pig.

We proposed a working hypothesis which is somewhat as follows: The fetus is adequately supplied with oxygen from its placenta and is not anoxemic normally, as commonly thought. Blood highly saturated with oxygen is shunted through the fetal heart directly to the fetal brain. So long as the brain is well supplied with oxygen, thresholds of its centers are high and there is little functional activity. The respiratory center does not discharge rhythmically under these conditions. Several points in this theory have been proved true in more than one species of animals. If all are true we should find that the fetal lung contains little or no amnitic fluid but that a true initial atelectasis exists just before birth.

Lungs of still-born human infants are not perfectly solid organs but show many alveoli partly expanded with fluid. However, one can not possibly argue that the histologic picture of a lung from a fetus which died before birth is a normal one. The lungs of still-born guinea pigs resemble those of humans. The first lantern slide demonstrates this. We killed this animal in utero at term by clamping the mother's uterine arteries, thus asphyxiating the fetus. It began to make respiratory movements in utero when we did this. When these movements stopped and the heart became weak, we delivered the fetus and fixed the lungs in situ with formaldehyde. Alveoli are partially expanded because amniotic fluid had been aspirated. In fact, we saw the fetus inhale this liquid.

The second slide shows the lung from another animal. In this instance we quickly opened the mother's abdomen under local anesthesia and placed a clamp on the uterus across the neck of the fetus to prevent it from aspirating. It was then fixed in situ. The alveoli are in a state of initial atelectasis. Even the

bronchioles are closed. This is the true picture of the fetal lung at the end of gestation, a solid gland-like organ, scarcely recognizable as a lung.

The lungs expand rapidly with air after normal birth. The third and fourth slides show what they look like after breathing for five minutes and one hour. Observe that areas of initial atelectasis remain here and there. Farber and Wilson recognized these regions in human infants, although of course no one has ever observed the entire human lung in atelectasis.

We calculated the amount of pulmonary space under the conditions I have mentioned. The following table demonstrates our results:

Pulmonary Space.

Initial fetal atelectasis	2%
Aspiration-expansion	16%
Air-expansion, 2 minutes	28%
Air-expansion, 1 hour	40%
Adult (estimated)	80-90%

We conclude from these experiments that the guinea pig fetus does not normally make respiratory efforts in utero which are strong enough to result in aspiration of the amniotic contents. Anoxia causes it to do so. I believe this is just as true in man as it is in experimental animals. When an infant is cyanotic or pallid and limp at birth the physician can be quite sure that it aspirated fluid. Vernix and meconium may have been drawn into the lungs with the fluid. I have seen sections of lungs of human infants dying a few days after birth showing this condition. Sometimes only small portions of the organs had become expanded with air; other parts failed to fill because passages were plugged with vernix when the anoxic fetus aspirated its amniotic fluid. Therein lies the significance of our experiments.

I want to add a few words to what has been said about resuscitation. The asphyxiated infant needs oxygen and it needs it quickly. We have had some experience in resuscitating animals which were deliberately asphyxiated. I am convinced that it is a waste of precious time to try drugs, mechanical stimulation and most other devices. The only method with which we were successful was positive inflation of the lungs. The technique we used in guinea pigs is simple.

A hpyodermic needle was inserted into the trachea through the midline of the neck, admitting oxygen to the lungs from an attached rubber tube when we compressed the trachea just above the needle. Inspiration and expiration were simulated alternately until the animal began to breathe of its own accord. If I were an obstetrician faced with trying to resuscitate a limp, pallid infant which failed to breathe at all, I should not hesitate to use this technique. It has advantages over other methods because it employs no special equipment, is quick, requires no intubation, and gets the oxygen past the tongue and epiglottis. A hypodermic needle (about no. 18), a piece of rubber tubing, and the breath of the attendant are all one needs.

We rarely failed to resuscitate experimental animals by this method when we continued to use it long enough. Sometimes we had to keep at it for over an hour. But we were dealing with fetuses whose hearts had been allowed to become so weak they could not be palpated. The heart rates began to increase within a minute after getting a little oxygen into the lungs. When the heart failed to pick up in three minutes we found that we had waited too long before starting resuscitation. But of course we were experimenting, and often deliberately allowed twenty minutes of complete anoxia. I want to emphasize the point that this method differs from month to month breathing in as much as it puts air directly into the lungs where it is so greatly needed.

Doctor Lund has spoken of the relationship of anoxia to permanent damage of the nervous system and has described a case in point. There is much evidence from human subjects indicating that brain damage and mental retardation are sometimes associated with histories of apnea at birth. Nevertheless, some physicians still maintain that the case has not been proven, that cause and effect may be reversed; in other words, that the infants may have experienced respiratory difficulties at birth because they were congenitally endowed with imperfect brains. It may be natural to try to avoid responsibility for having brought forth a baby who becomes an imbecile, but present knowledge is such that one can no longer salve the conscience with the thought that neonatal asphyxia is the fault of the child's heredity.

We have experimental proof that anoxia at birth can produce permanent brain injury and that it can produce marked behavior changes. We have some evidence that it may even lead to impairment of learning ability in individuals who otherwise seem entirely normal. I haven't time to describe our experiments in detail, and you may not be interested in all of them, but I will try to summarize a few of the more important findings.

In the first place, we controlled our experiments by pairing each asphyxiated guinea pig with a normal litter-mate delivered without narcosis. Anoxia was induced by clamping the uterine arteries or the umbilical cords without delivering the specimens. The duration of anoxia in our 103 experiments varied from 4 to 21 minutes and most of the animals required resuscitation. About 45 of them exhibited characteristic symptoms of asphyxia pallida; namely, apnea, atonia, bradycardia, relaxation of the anal sphinctors, and cold pale skin.

Regardless of the duration of anoxia, all animals showed at least transient symptoms of central nervous system damage. These were motor weakness, temporary paralysis, tremors, convulsions, etc. Pronounced and persistant symptoms occurred in 40 animals. Flaccid paralysis of the hind limbs was found in some; spasticity, especially in the forelimbs occurred in others. Some appeared to be decerebrated. One

showed a picture of complete spinal transection. Tremors, convulsive movements, ataxia and other motor phenomena were observed. Epileptiform convulsions were encountered occasionally. Sensory functions were affected in varying degree. Somnolence characterized some of the animals. This was striking because the normal guinea pig rarely can be observed to sleep. Motor and sensory disturbances persisted for varying lengths of time. Some animals never recovered, but most showed few symptoms after a week. A few were strikingly like children with congenital spastic paralysis.

Most interesting were the behavior differences which could be observed even after motor functions had recovered. Unlike the controls which were alert, acutely aware of sounds and movements in their environment, animals which had been subjected to anoxia at birth tended to be docile and dull. They paid little attention to environmental changes, did not startle readily and were unafraid of the observer. The control animals often became frustrated when given a simple problem to solve, but the experimental animals faced the situation unconcerned, even though they repeatedly made errors in trying to reach a solution.

Gross pathology was rarely observed. In only one instance did we encounter hemorrhage in the brain at autopsy. Histologically, susprisingly little effect of anoxia could be detected in many of the guinea pigs, but significant changes were recognized in the brain and spinal cord of a few of those exhibiting marked persistant symptoms. Generalized and wide-spread areas of necrosis appeared in the cerebrum, diencephalon and spinal cord. At first the nerve cells lost affinity for stains and showed early chromatolytic changes. Some cerebral edema was observed; small hemorrhages were recognized microscopically but appeared to have no relation to focal areas of necrosis.

Permanent changes in the brain resulted in a few instances. These consisted of atrophy with compression of the cortical layers and dilation of the ventricles. In one pair of specimens of equal weight, the brain of the resuscitated guinea pig was at least 20 per cent smaller than that of its control at seven weeks. Foci of gliosis and marked destruction of the layers of pyramidal cells of the cortex were other findings.

I want to emphasize the point that anoxia did not produce marked pathology in all cases. In fact when all our material is studied I think we shall find that it was only a small percentage of the asphyxiated animals who were permanently damaged. This is important, for if asphyxia neonatorum invariably produced feeblemindedness, paralysis, brain atrophy and other pathology, it is questionable that the physician should make extreme efforts to resuscitate the anoxic fetus. However, we can find no definite correlation between the degree of anoxia or its duration and the amount of brain damage. Some of our experimental animals which were most severely depressed at birth subsequently recovered completely and showed little or no pathology. The nerve cells of the newborn are less vulnerable than those of the adult, and they withstand anoxia for greater lengths of time.

I should regret having a severely asphyxiated infant at birth, but I should not hesitate to use radical methods of resuscitation in the fear that the child will become abnormal by virtue of the anoxia. There is always a fair chance that little or no permanent damage will result.

I am extremely grateful to the people who discussed the papers, and I am sure it is only through the fundamental work of such men as Dr. Windle and his associates that we will ever really know the cause and outcome of the various anoxic conditions that occur.

THE PROSTIGMIN PREGNANCY TEST AND TREATMENT FOR DELAYED MENSTRUATION

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Current interest in the prostigmin pregnancy test is evidenced by frequent mention in medical circles and by several excellent articles, particularly the original one by Soskin, Wachtel and Hechter,[1] which thoroughly explains its mechanism, technique, and the results of its application in a series of appropriate cases. This report will add 27 cases to those already reported elsewhere by others, and will help to build up a large series on the basis of which the usefulness of the test can be finally evaluated. That the test seems not only diagnostic of early pregnancy but also seems, during the very same time of its application, a rational treatment of delayed menstruation, will be further remarked upon later in this paper.

According to Soskin et al., the rationale of the prostigmin pregnancy test is as follows: Delayed menstruation is very often the result not of pregnancy, nor of endocrine disturbance, but of nervous origin. Inasmuch as the phenomenon of menstruation has been shown to involve not only the specific proliferative effect of estrogens but also the effects secondary to uterine hyperemia, it is conceivable that this vascular mechanism might often be at fault in amenorrhea. There is evidence that the uterine hyperemia preceding menstruation is due to acetylcholine, which substance is elevated in content as a transient result of estrogenic stimulation. The appearance

of acetylcholine in the picture suggests implication of the parasympathetic nervous system, the functions of which are known to be medicated through this substance. If then, there is a relationship between cyclic bleeding and this portion of the central nervous system, frequently encountered cases of amenorrhea occasioned by mental or emotional disturbances are quite understandable. The object of prostigmin in these cases is to potentiate the influence of acetylcholine by inhibiting cholinesterase, the tissue enzyme which is responsible for the hydrolysis and destruction of acetylcholine.

Given a case, therefore of delayed menstruation in which neither pregnancy nor endocrine disorder is etiologically involved, but in which this lack of vascular responsiveness might be operative, administration of prostigmin should produce early menstrual bleeding. As regards the sometimes delayed effects of prostigmin, Taubenhaus and Soskin[2] directly applied an acetylcholine-prostigmin mixture to the exposed pituitary glands of rats, and pseudopregnancy resulted. It was concluded that the mixture caused a release of luteinizing hormone from the anterior pituitary. In the human, this would result in the appearance of an unsupported corpus luteum, which would rapidly regress and be followed by bleeding. At any rate, that prostigmin does produce both early and delayed bleeding is indicated by the first 20 cases in the accompanying chart. Incidentally, careful study of this chart will quickly acquaint the reader with all essential details of the test.

It must be emphasized that the test is not applicable in cases of delayed menstruation known to be due to some underlying endocrine disorder nor in cases in which the previous menstrual history has been in any way abnormal. Finally, the test is not applicable either, in cases in which local pelvic pathology is present and which therefore may be serving as the etiological agent in the amenorrhea.

There has been some criticism as to the value of the prostigmin test for pregnancy, which is largely based upon the limitations just outlined, and which is not justified by practical experience with the test. The difficulty in ruling out the limitations is said to be great. However, if any one of these factors is etiologically operative in a given case of delayed menstruation a careful history and physical examination ought at least to direct suspicion toward them. For example, an existing endocrine imbalance capable of producing amenorrhea does not usually manifest itself in an *abrupt* cessation of the menstrual function; one would expect that previous irregularities in quantity, quality, and time of the flow would have manifested and that these facts would be brought out in the history. Again, any local pelvic pathology serious enough to result in amenorrhea should reveal itself upon thorough pelvic examination. As for the stipulation that previous menstrual history be normal, there are many different causes of delayed menstruation, and in patients with an abnormal menstrual history this delay is probably no new experience and, in patients of menopausal age, could very well be simply an early manifestation of the onset of that syndrome.

A word need be said here about the possibility of prostigmin interrupting early pregnancy. This question was very carefully investigated by Soskin et al., first by animal experimentation and later in clinical practice. In pregnant animals even huge doses of the drug in no way affected the pregnancy or offspring and in humans the very fact that the drug did not in a single case induce bleeding in patients known to be pregnant led Soskin, et al. to make their claim that "it is possible to assure the patient treated with prosigmin that she will soon menstruate unless she is pregnant. If she fails to menstruate, pregnancy may be diagnosed with the same degree of accuracy as is possible with the Friedman test."

COMMENT ABOUT THE CHART

The chart is largely self-explanatory and rather completely answers the more obvious questions which one might ask about the test. Case No. 8 needs to be considered in detail, however, for it serves the double purpose of illustrating just exactly the type case in which the prostigmin treatment or test may *not* be reliable but also illustrates the fact that even in this type of case prostigmin may sometimes have a favorable action. In addition to presenting a history of irregular menstruation as well as numerous previous instances of menstrual delay this pa-

MENSTRUAL FLOW INDUCED

Case No.	Initials	Age	Previous Menstrual History	Days Overdue	Pregnant? According to History and Physical?	Pregnant? According to A-Z or Friedman Test?	Endocrine Disturbance	Pelvic Pathology	Prostigmin Injections	Results
1	C.B.	20	Normal	10	No	Not done	None manifest	None found	1 injection	Flow started about 20 hrs. after injection
2	C.C.B.	21	Normal	3	No	No	None manifest	None found	3 injs. — 3 days apart	Flow started about 72 hrs. after last injection
4	J.F.	30	Normal	16	No	Not done	None manifest	None found	1 injection	Flow started about 12 hrs. after injection
7	E.L.	20	Normal	6	No	Not done	None manifest	None found	1 injection	Flow started about 6 hrs. after injection
8	L.L.	28	Abnormal (see Comment)	8	No	Not done	Probably (see Comment)	Lacerated cervix; infantile uterus	See Comment	See Comment
9	E.M.	21	Normal	3	No	Not done	None manifest	None found	2 injs. — 2 days apart	Flow started about 4 hrs. after 2nd injection
11	M.R.	21	Normal	14	No	No	None manifest	None found	2 injs. — 1 day apart	Flow started about 16 hrs. after last injection
13	E.T.	29	Normal	7	No	Not done	None manifest	None found	1 injection	Flow started 24 hrs later but then stopped — 2nd injection re-initiated the flow in 5 hrs.
15	M.S.	18	Normal	11	No	Not done	None manifest	None found	1 injection	Flow started about 21 hrs. after injection
16	R.L.	27	Normal	30	No	No	Possible (see Comment)	None found	3 injs. — 1 day apart	Flow started about 24 hrs. after last injection
17	M.J.	19	Normal	5	No	Not done	None manifest	None found	1 injection	Flow started 8 hrs. following injection
21	I.C.	27	Normal	7	No	Not done	None manifest	None found	1 injection	Flow started 14 hrs. after injection
24	I.B.	37	Normal	5	No	Not done	None manifest	None found	2 injs. — 1 day apart	Flow started 48 hrs. after 2nd injection
27	J.S.	24	Normal	7	No	No	None manifest	None found	3 injs. — 1 day apart	Flow started 48 hrs. after last injection

tient also had a lacerated cervix and an infantile uterus — findings which would immediately disqualify her as a legitimate candidate for the prostigmin test. On previous occasions of menstrual delay she had been given large doses of estrogens which apparently were successful in inducing the flow some 6 to 10 days later. In the present instance eight days overdue, she was given 1 cc of prostigmin methylsulfate 1: 4000 and menstruation started 24 hours later. The following month she was again two days overdue. Menstruation occurred 12 hours following a similar injection of prostigmin. The next month an injection of 1 cc of the 1:2000 dilution was given on the day her menstruation was expected. It occurred within 8 hours of the injection. Prostigmin obviously was much more effective than the estrogens had been. In case No. 16 there had been a gain in weight of 30 pounds in six months. This fact suggests at least the possibility of an endocrine disturbance. This possibility in this case has not been conclusively investigated thus far. Nevertheless, as far as the absence of pregnancy was concerned, the prostigmin test gave a correct response.

Included in this series of cases but not listed on the chart are cases No. 3, 19 and 20. These are especially interesting. Case No. 3 was that of a young woman, 5 days overdue, in whom there was no suspicion of pregnancy as indicated by negative physical findings and a negative

MENSTRUAL FLOW UNINDUCED

5	D.H.	32	Normal	15	Possibly	Yes	None manifest	None found	3 injs. — 1 day apart	No flow
6	R.J.	26	Normal	16	Yes	Not done	None manifest	None found (cervix soft; uterus enlarged)	3 injs. — 1 day apart	No flow
10	O.P.	19	Normal	46	Yes	Yes	None manifest	None found (cervix soft; uterus enlarged)	3 injs. — 1 day apart	No flow
12	L.S.	23	Normal	15	Yes	Yes	None manifest	None found (cervix soft; uterus enlarged)	3 injs. — 1 day apart	No flow
14	J.V.	21	Normal	14	Possibly	Yes	None manifest	None found (cervix soft; uterus enlarged)	3 injs. — 1 day apart	No flow
18	R.B.	29	Normal	24	Possibly	Yes	None manifest	None found	3 injs. — 1 day apart	No flow
22	A.M.	26	Normal	47	Possibly	Not done	None manifest	None found (uterus enlarged; cervix hard)	3 injs. — 1 day apart	No flow
23	A.C.B.	33	Normal	13	Probably	Yes	None manifest	None found (Uterus enlarged to 8 weeks pregnancy)	3 injs. — 1 day apart	No flow
25	M.A.	20	Normal	25	Probably	Yes	None manifest	None found (uterus enlarged)	3 injs. — 1 day apart	No flow
26	A.A.	22	Normal	8	No	Yes	None manifest	None found	3 injs. — 1 day apart	No flow

Friedman test, nor could any other cause for her delay be ascertained. Yet menstrual flow did not occur until 7 days following the third daily injection of prostigmin. This case was subsequently diagnosed as one of thyro-ovarian deficiency. On the other hand, to revert to the findings of Taubenhuas and Soskin previously referred to, it is seen that the probable effect of prostigmin in causing a release of luteinizing hormone from the anterior pituitary may account for part of the drug's ability to bring about a delayed menstrual flow. Thus, stressing the hyperemic effect of prostigmin on the uterus, these authors state, "This factor alone may very well account for those cases of 'nervous' amenorrhea which start to flow within a few hours after the administration of prostigmine. It does not seem to be a sufficient explanation for other cases in which the menstrual flow does not begin until 3 days after the last dose of prostigmine. The present work suggests that, in the latter type of case, the prostigmine causes a release of luteinizing hormone and corpus luteum formation. The corpus luteum is not supported by the usual factors which maintain it for 1 to 2 weeks in the normal menstrual cycle and its existence is therefore transient. Bleeding is precipitated as the corpus luteum regresses."

Case No. 19 was that of a young woman, 8 days overdue, the delay diagnosed as being due to early pregnancy. She was given prostigmin, nevertheless, in an attempt to ascertain whether or not the test would confirm a positive Friedman test previously taken and also in the knowledge that, according to Soskin et al., the drug would not interrupt pregnancy. According to this patient, spotting occurred twelve hours

after the first injection of prostigmin. It did not occur following the subsequent two injections. However, this patient confessed to having taken quinine and hot baths several times during the course of the injections. Very careful questioning of the patient revealed that spotting had really not occurred at all and the contention that it had, had been advanced in the hope that a therapeutic abortion would be performed.

Case No. 20 was that of a woman, 28 years of age, complaining of menstrual delay of days duration. Her menstrual periods had been irregular in the past. Despite this fact she was given prostigmin. Although there was no evidence of pregnancy this patient did not flow until 36 hours following the third injection. An infantile uterus, later verified by surgery, was discovered and hence this patient was really disqualified for the prostigmin test or treatment on two counts, viz.: previously irregular menstrual history and local pelvic pathology. Even so, menstruation did follow the prostigmin injections although not as promptly as in the other cases.

The usual procedure for applying the test is to inject intramuscularly one or two cc of prostigmin methylsulfate (1:2000) on three successive days, unless of course precipitation of the flow is accomplished by either the first or second injection — in which event there is no need for the second or third injection, as the case may be.

If prostigmin will precipitate menstruation in non-pregnant cases of menstrual delay, as apparently it does in selected cases, application of the drug in these cases would appear a reasonable treatment in this disorder, even omitting the consideration that it may at the same time be indicating the presence or absence of pregnancy. The patient complaining of this menstrual delay must be treated. The question of pregnancy is very often of paramount importance in the problem. Careful history and physical examination having revealed no obvious cause of the delay, it is an advantage of prostigmin that it will induce the flow soon after the injections, unless the patient be pregnant. As has been previously brought out, prostigmin will not interrupt pregnancy. This fact should be impressed upon the patient so that she does not look upon the injections as an abortifacient procedure.

SUMMARY

1. Twenty-seven cases in which the prostigmin pregnancy test and treatment for delayed menstruation has been evaluated are presented in chart form. The chart is so designed as to afford all essential information about the test at a glance.
2. The rationale, mechanism, and procedure of the test is further explained in the text.
3. In the series of cases reported herein, the procedure appeared to be not only an aid in the diagnosis of early pregnancy but also a useful treatment in selected cases of menstrual delay.
4. The present series of cases, when added to those previously reported (1) (3) (4), now comprises a total of 122 recorded cases, in which the test and treatment have been used successfully. Further use of the method, and compilations of the results, are certainly warranted in order to finally evaluate the practical usefulness of the procedure.

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CONSERVATIVE MANAGEMENT OF THE SINUSES

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Diseases, like ladies clothes, go out of style. Most any type of nasal pathology used to be called "catarrh." The common term now for such pathology is "sinus" and if one may predict the next term in vogue for nasal disease will be "allergy." Are we responsible for these terms and for magazine articles on the "sinus racket?" In this era of propaganda, we need accurate and uniform information diffused to the laity and the general practitioner as to what constitutes sinus disease.

Porter,[1] believes that much of the reproach heaped upon the medical profession by the laity

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is due to ill advised surgical intervention as practiced by insufficiently trained men. He favors conservative and palliative treatment for acute sinus conditions except the fulminating ones with accompaning orbital and cerebral complications. Most of us agree to this treatment in the acute stage. In cases of chronic sinus disease he finds that adequate *surgical* treatment of the ethmoid cells is often the key to the treatment of pathological conditions in other sinuses and he advises *intransal surgical* procedures in most of the cases. He also favors an external approach by the Lynch Method or the non-obliterative technic of Killian[2] for chronic frontal disease. It is in these chronic sinus conditions where so much difference of opinion exists. Many noses are ruined and the patient often becomes always a sinus patient by radical surgical procedures. In the Presbyterian Hospital, in the Cook County Hospital and in the Central Free Dispensary we are much more conservative in our indications for nasal operations than we were a few years ago. These indications have been ably discussed in several papers by Shambaugh, Jr.[3, 4]

Physiologically, the nose has two functions; olfaction and respiration. In man respiration is the more important. The nose is our air-conditioner and should be kept in the best possible order to warm, clean and moisten inspired air. It has a difficult job in our over-heated homes, in our air conditioned buildings and trains and following some of the nasal surgery which has been done. The nasal cavity, except for the relatively small olfactory area is lined with a specialized form of epithelium called the respiratory epithelium. This epithelium consists of a single layer of ciliated, columnar cells with a few goblet cells which discharge mucus upon its surface. The cilia are in constant motion and sweep particles toward the nasopharynx. Beneath the ciliated epithelium is the vascular network with its mucous glands. These are most abundant in the inferior turbinates and in the anterior ends of the middle turbinates where they are most needed for the inspired air which must be warmed and moistened. The nasal passages are normally narrow and have their own physiological thermostat. We should be cautious about any surgery which might impair this structure and do only surgery necessary to restore the normal anatomy and physiology.

Because of the intimate relationship of the nasal passages with the accessory sinuses, a brief review of chronic rhinitis is important. There are three types of chronic rhinitis, the atrophic, the allergic and the infectious. The most common variety of chronic rhinitis is atrophic rhinitis in the milder form without crusting. The air passages are too wide and the mucus is diminished. The patient complains of nasal obstruction. The mucus film becomes thick and dry and sticks in the nasopharynx. This condition is often associated with a distinct lateral pharyngitis or nasopharyngitis. The mucous membrane of the pharynx becomes reddened, thickened and glazed. The patient complains of a "dropping" behind the soft palate and is certain that he is afflicted with sinus disease. He thinks there must be a reservoir for the source of this post-nasal discharge. The old form of severe atrophic rhinitis with crusts and foul odor has become rare in our clinics. The treatment of atrophic rhinitis as we now see it is simple. Saline nasal irrigations, once or twice daily, remove the dried mucus of the nose and nasopharynx. Gradually the atrophy disappears. The patient is instructed to work and live in air saturated with more moisture.

The second form of chronic rhinitis is becoming more common. It is the allergic type or more accurately hyperesthetic rhinitis. Usually the symptoms are sneezing attacks, watery nasal discharge and nasal obstruction which is alternating and may be intermittent. Some of these patients are sensitive to one foreign protein while others seem sensitive to the entire list. The onset may be sudden and the attack may leave just as quickly. Attacks may be seasonable as at the time of hay fever. The presence of an increased percentage of eosinophiles in the nasal secretion is diagnostic of allergic rhinitis. New refinements in staining these smears have recently been described by Hansel.[5] The treatment consists in finding the causative substance or substances and removing them or desensitizing the patient if possible. If one is unable to find the causative agent the application on the nasal

mucosa of strong chemicals may be tried. The successful treatment of many of these patients is often difficult and seems related to the intractable asthma problem.

The third type of chronic rhinitis is usually the aftermath of an acute head cold. If this persists, the congestion in the mucosa of the nasal passages may progress to fibrous tissue hypertrophy. If this occurs on the posterior tips of the turbinates, it is best treated by surgical removal. Linear cauterization often relieves the chronic thickening of the inferior turbinates. If the mucus in the nasal passages is thick, irrigation with normal salt solution will benefit. The use of 10% Neo-silvol, argyrol in salt solution or 10% to 25% Icthyol in glycerin packs is beneficial.

Many patients with chronic rhinitis believe they have sinus trouble and too often they are treated or have had operations for sinus disease when the nasal condition was responsible for the symptoms. They are not relieved and naturally advise their friends that sinus disease cannot be cured. The accessory nasal sinuses are probably infected during the course of most acute head colds. The cilia however sweep the sinuses clean and the sinus infection usually subsides with the acute nasal infection. This should not be diagnosed as acute sinus disease. However, if the infection is more virulent or the individual's resistance is low, the mucosa of the sinus may swell so that the ostium is occluded. The sinus fills with mucus or pus, the cilia are paralyzed and cannot function. The pressure of the imprisoned secretion on the inflammed mucosa may cause pain. We now say the patient has an acute sinus infection. We should define sinus infection as one containing secretion either mucus or pus. A sinus with a thickened wall and no other symptoms should not be classed as a sinusitis. With one rhinologist any slight thickening of the mucosa of the sinus constitutes sinus disease. With another rhinologist the diagnosis of sinus disease is made only when microscopic pus or shreds of pus can be demonstrated as coming from the involved sinus. As specialists, we need unity among ourselves as to what constitute sinusitis.

The sinuses are out pouchings of the nasal cavity and are lined with the same type of epithelium. Mucous glands are scarcer and the vascular layer is thinner in the sinuses because there is very little air circulation. The ciliated columnar epithelium however, is found throughout the sinuses and in health sweeps the secretions clean, through the ostia.

The conservative treatment of acute sinusitis may now be considered. The inflammed nose with the swollen sinus should be put at rest in a favorable warm, moist atmosphere. If drainage is obstructed, weak solutions of ephedrine, neosynephrin or gluco-fedrin may be used. Heat in the form of external wet heat or steam inhalations is valuable. The electric pad, not water bottle and infra-red lamp may be of some benefit.

These conservative measures control most of the acute frontal and ethmoidal sinus disease and many of the maxillary sinuses never need irrigation. However, after a few days, if the purulent secretions persist from the maxillary sinuses, irrigation may be undertaken through the natural opening using the Pierce natural ostium cannula and warm normal saline. If this is not successful, it is safe to puncture through the inferior meatus using a straight trochar. In this procedure the irrigating system is filled with warm saline to prevent air embolism. Pressure is lightly applied and stopped at once unless fluid returns or if patients complains of pain. As often happens the membrane lining is so thickened that the sinus cavity is obliterated by the swelling.

General conservative measures usually suffice in treatment of acute frontal sinus disease. The nasofrontal duct is seldom cannulized without trauma in the acute stage and this should be avoided. If the symptoms become dangerous with threatened intracranial complications a trephine opening externally into the frontal sinus is a safe procedure and gives the necessary drainage. This type of drainage is preferred to rasping the nasofrontal duct.

Acute ethmoid sinus disease responds best to rest, mild shrinking solutions and to nasal packs of 10% neo-silvol or argyrol for ten or fifteen minutes used once or twice each week. Displacement suction after the method of Proetz in acute

sinus disease may spread the disease to uninvolved sinuses and should not be used. Acute sphenoid sinusitis which fails to respond to rest and mild shrinking can usually be treated by irrigation through the natural ostium.

Of the many complications of acute sinusitis, two are outstanding. One is ethmoiditis in infants which breaks through the lamina papyracea. Treatment here is entirely conservative and consists of external heat until the abscess shows fluctuation when it is drained. No squint has followed any of the cases we have observed. The second complication is acute frontal sinus disease following swimming. There is a great difference of opinion as to the best treatment of this condition. Conservatism is again emphasized; rest, heat and mild shrinkage with no attempt to cannulize or fracture middle turbinate. If drainage is insufficient or temperature becomes elevated or intracranial symptoms intervene a trephine opening into the lower part of the sinus is indicated. This will provide drainage and recovery will follow, except in the types of cases where the infection enters the blood stream and causes an early osteomyelitis. For these desperate cases of osteomyelitis one must be radical and adopt the procedure described by Moser[6] of thorough eradication of diseased bone. The difficulty in doing this operation is to judge when one is in healthy bone and how far from diseased bone. The X-Ray is of little or no diagnostic value in this type of disease.

Chronic sinusitis is more difficult to diagnose than acute sinusitis. There is great difference of opinion among rhinologists as to what constitutes chronic sinus disease. Here again it seems we should insist that some visible macroscopic pus be found in the chronically infected sinus. In other words a sinus with a thickened membrane should not be classified as chronic sinusitis. We as rhinologists need more uniformity as to what constitutes chronic sinus disease. Otherwise we have no criticism of the laity and general practitioner for calling any nasal catarrh, sinus disease.

In chronic sinus disease the cilia may be active and sweep secretions from the ostia but they do not keep the sinus free of pus. We do not know why this is true but one important factor in chronicity is the anaerobic type of streptococcus which is present. The sudden cures of chronic maxillary disease following window operations must be due to aeration and ventilation and not to more adequate drainage. Irrigation is the most important diagnostic aid in the maxillary and sphenoid sinus disease. If the frontal sinus can be cannulized, irrigation is diagnostic. If this cannot be done, we must rely upon the X-Ray which may show sclerosis of the walls even in a sinus which has long since been inactive. The diagnosis of chronic ethmoiditis is most difficult. X-Ray is of some aid and the displacement technic of Proetz is of considerable value.

After the diagnosis of chronic maxillary sinusitis has been made, every case deserves a thorough trial with a series of simple irrigations. Every patient must have careful Rotengen examination of the upper teeth to rule out possibility of apical abscesses which may be feeding the sinus. Such teeth should be extracted at once. If there is improvement after irrigations, this treatment should be continued for months and often the infection heals. The chemotherapeutic drugs have been used recently. Sulfathiazole is injected into the sinus after irrigation. Favorable results are reported but it is too early for definite conclusions. Irrigations are repeated often enough to keep the sinus clean. These may be necessary daily at first, then three times a week and then twice a week. If no improvement in the quantity or quality of the pus is noted in three weeks, surgery is indicated. If the patient refuses operation irrigations may be continued and sometimes with successful cure. The window operation under the inferior turbinate will clear up most of the chronic maxillary sinus infections which fail to respond to irrigations. The window should be made large for good aeration and the edges should be bitten clean, because of less tendency for its closure. The Caldwell Luc-operation is seldom considered in our clinics.

In treatment of the chronic frontal sinus, best results are obtained if the sinus can be cannulated and irrigated. Gravity aids recovery of the patients. Granulations often form around the opening of the nasofrontal duct with varying degrees of oedema. After repeated irrigations with the cannula, these granulations tend to disappear. If the duct cannot be cannulated, a ditch in the anterior ethmoid cells will permit the cannula to enter the frontal sinus easily.

Operations for enlarging the nasofrontal duct cause greater fibrosis. The external frontal operation for chronic frontal disease has seldom been indicated in my experience.

Chronic sphenoid disease is rare. It is usually treated by irrigations and occasionally by enlargement of the ostium after removal of the posterior end of the concha media. Care must be exercised not to wound the naso-palatine artery which passes across the anterior inferior wall of the sinus.

Chronic suppurative ethmoiditis responds in most cases to the Proetz method of displacement suction. ¼% ephedrine in normal saline is used instead of the ½% originally advised by Dr. Proetz. The treatments are given once a week and repeated until the returned solution is free of pus and the patient is free of symptoms. Nasal packs of 10% neo-silvol, 10% argyrol and 10 to 25% icthyol in glycerine are of value. These packs are used according to the technique of Dowling and left in the nose fifteen to thirty minutes. The remaining cases of chronic suppurative ethmoiditis which do not improve are subjected to surgery. A simple ditch type of intransal ethmoidectomy popularzied by McGinnis is carried out without disturbing the middle turbinate. The anterior cells are ditched first. The septum is corrected if the nasal passage is too narrow on the diseased side. The most important part of the ditch operation is the careful and prolonged after treatment to prevent ingrowth of scar tissue which will defeat the purpose of the procedure. If pus persists, the ditch should be carried out through the posterior ethmoid cells and the after treatment carefully continued. The external ethmoidectomy is rarely necessary and the results are often unsatisfactory. After treatment is frequently neglected and polpoid tissue reforms.

Many cases of chronic sinus disease fail to respond favorably to radical or conservative treatment because there is an underlying allergic factor. The valuable work of Hansel has made us more alert to allergic factors when sinuses fail to respond to the usual management. If the nasal mucosa is pale and polypoid or there are polypi in the nasal pasages, even in the presence of frank pus, allergy should be sought and eliminated before dealing with the polpi. More rhinologists are doing allergy tests because they are trained to observe the results of desensitization. To summarize the reasons for poor results in treatment of sinus disease:

1. Lack of unity among rhinologists as to what constitutes sinus disease.

2. Treatment of nasal allergic conditions, foreign body and rhinitis as sinus disease.

3. Improper treatment eg. To use packs or sprays when irrigation or suction is necessary.

4. Over radical operations which wreck or disable the normal anatomy and physiology of the nasal passages.

5. Necessary operations badly performed as a submucus resection which leaves the nose blocked or an antrum window which is too small.

To summarize the end-results of conservative treatment of chronic sinusitis as to cure:

1. Chronic maxillary sinusitis is usually cured by simple irrigations and with an occasional window. Recurrences do occur and if dealt with promptly the infection usually subsides quickly with conservative management.

2. Chronic frontal sinusitis usually responds to conservative management with gravity aiding. Occasionally a submucus resection of the septum or an infraction of the concha media is needed to promote drainage.

3. Chronic sphenoiditis is rare in our clinics unless seen in a nose where already to much surgery has been done.

4. Chronic ethmoiditis is the most unsatisfactory sinus disease to respond to any form of management. These patients are prone to recurrences. It is difficult or impossible to completely exenterate every ethmoid cell which fact is probably responsible for our unsatisfactory results. With these persistent infected pockets results are satisfactory only if the patient is faithful until healthy mucus membrane lines the ditches. An operation on the ethmoid for cure may be compared to the road through virgin forest. The road is soon lost unless kept open. In the clinics at Cook County hospital and the Central Free Dispensary we have more satisfactory results with conservative management. External ethmoid operations have been carefully and properly done on anxious patients who expected forever afterward to be free of their sinus disease. Such was not the case.

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DISCUSSION

Dr. R. W. Watkins, Chicago: Dr. Curry has remarkably well covered the treatment of sinus disease in his excellent paper. He has left very little to add in discussion. He has brought out that there is a great deal of confusion in the minds of the laity and physicians as to what constitutes sinus disease. I have had patients who thought that a sinus and sinus disease were synonymous.

That the ethmoid should be considered the key to the situation is logical because of its position at the opening of the sphenoid, maxillaries and frontal. Swelling in its membrane can block the other sinuses. Secretions from the labyrinth may find their way into other sinuses, especially through the improper use of sprays, violent blowing of the nose or several other treatments. We must, in conservative treatment, call in the teamwork of the internist, unless we wish to be considered specialists of the skin and its contents. We very often find that swelling in the nose is due to abnormal secretion of the thyroid. Anemia may be a factor. Change of climate is often beneficial, and I have seen cases with much polypoid formation in the nose and after a sojourn for a month or two in a high altitude and dry climate, this has disappeared — cases in which surgical intervention has been tried again and again.

As he said, chemotherapy is in its infancy and we do not know the effect. We have proven the use of sulfanilamide to be of great value in infections due to hemolytic streptococci, but unfortunately, or fortunately, most infections are due to Staphylococci, Pneumococci, and green Strep. What sulfathiazole will do for these I do not know. If we take the newspaper accounts of what sodium sulfanilamide will do for the sinus, we might as well fold up our white coats and go to the farms we are always thinking about.

Dr. Louis Ostrom, Rock Island: At Rochester they are using radium in a number of these recurring ethmoid cases — in many that previously and at other places have been well treated by competent specialists. I would like to ask his opinion of that.

Dr. Louis T. Curry, Chicago (closing): I want to thank Dr. Watkins for his discussion. So far as radium is concerned I have had no experience with radium in ethmoiditis. We do use it for other purposes, and the trouble has been in getting the radium where we wanted it, and not to areas we wish to skip. I left out the discussion of x-ray in the treatment of sinusitis because our experience has not been extensive. We have tried it but our conclusions have not been definite.

HYPOCHROMIC ANEMIA AND MALIGNANCY

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Hypochromic anemia is the hematologic term applied to a large group of anemic states in which the red blood cells have a subnormal amount of hemoglobin, — the loss of hemoglobin exceeds the loss of red cells and the color index is below one. "Hypochromic anemias are by far the most common anemias encountered, constituting perhaps 90 to 95 percent of all anemic states." They are frequently referred to as "secondary anemia" since their causes are many and nearly always due to some other disease condition. Various malignant processes are nearly always accompanied by hypochromic anemia and the degree of anemia may be entirely out of proportion to the extent of the malignant growth. "Usually the hypochromic anemia of malignancy is severe in character and probably produced by interference in the construction of the hemoglobin molecule which may be brought about by the liberation of some unknown substance from the growing tumor."

It is generally agreed that only hypochromic types of anemia respond to iron therapy and the hypochromic macrocytic types to liver extract. "Hypochromic types are not corrected by liver and much expense can be saved the patient by avoiding expensive liver preparations and relying on the relatively inexpensive iron therapy, unless the red cells are also definitely reduced." Naturally, every effort must be made to ferret out the cause of a hypochromic anemia and eliminate it if possible, otherwise all therapeutic efforts will be eventually defeated.

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Transfusions are seldom indicated in the correction of a long standing chronic hypochromic anemia, such as occurs in malignancy, and without doubt transfusions are much overdone. Kracke states, "Even though the hemoglobin may be only 25 per cent and the red cells quite low, this within itself is not an indication for the transfusion of blood, provided the patient shows no emergency symptoms referable to the anemic state. In some instances of anemia following the loss of large quantities of blood, the procedure is indicated, but mainly to restore a depleted blood volume. There are times when a patient does not seem to respond to the administration of what appears to be an adequate amount of iron and, in such cases a transfusion of 500 cc of blood seems to provide some type of stimulus that initiates a satisfactory response to therapy. To use it routinely, however, in severe hypochromatic anemia, is, as Castle and Minot state, 'an expensive and clumsy method of securing a therapeutic result.'"

Intravenous fluids must be administered with great caution as they may dilute the red cells to a danger point. Blood plasma should not be used in severe hypochromic anemia. It merely dilutes the red cells so the anemia is accentuated. The injection of sodium chloride results in a decrease in the haemoglobin content by further dilution of the blood plasma.

Iron Preparations — Kracke states, "The administration of suitable preparations and adequate amounts of iron is the most valuable method of correcting all types of hypochromic anemia." Emphasis has been made by numerous investigators that the iron dosage must be very large, and in divided doses of an absorbable preparation. The addition of copper to the iron is not necessary in the therapeusis of hypochromic anemia. There is now general agreement that the inorganic iron salts are the only forms of iron to use and Witts has shown that the ferrous salts are most absorbable and are therefore more readily utilized. Strauss gives preference to the freely soluble preparations such as iron and ammonium citrate or ferrous sulphate (especially if an achlorhydria is present) in preference to the relative insoluble forms such as reduced iron or ferrous carbonate. According to the works of Witts and Strauss, the official U. S. P. preparations shown in Table 1 will give maximum hemoglobin regeneration if used in the daily doses indicated. These studies also show the advantage of administering ferrous sulphate, which requires the smallest daily dosage because of the relatively high percentage of the iron that is utilized compared with the other preparations.

TABLE I.

SOME OFFICIAL U.S.P. IRON PREPERATIONS

Preparation	Solubility	Daily Dosage	Iron Content (Milligrams)	Iron Utilization	No. Mgs. Iron Utilized
Reduced iron	Relatively insoluble	45 grains	2500	1%	25
Ferrous carbonate mass (Blaud's)	"	60 grains	400	7%	28
Ferrous carbonate pills (Bland's)	"	60 grains	400	7%	28
Iron and ammonium citrate	Freely soluble	90 grains	1200	2%	24
Ferrous sulphate	"	15 grains	300	14%	42

Incidentally, ferrous sulphate is the most economic type of iron, of the widely used iron preparations, for the treatment of hypochromic anemia. The three most widely used and economical ferrous sulphate preparations are 1. the U. S. P. ferrous sulphate tablets (5 grains per tablet containing about 100 mgs. of metallic iron, 50c to 90c per 100); 2. Feosol tablets (3 grains per tablet, containing not less than 63.5 mgs. of metallic iron, 90c to $1.00 per 100, Smith, Kline & French Labs.) and 3. Hematinic Plastules, (5 grains per plastule, containing not less than 95 mgs. of metallic iron, $1.35 to $1.50 per 100, Bovinine Co.). The usual daily dosage of ferrous sulphate is from 15 to 45 grains (1 to 3 grams) divided in three doses with or immediately after meals. Enteric coated preparations are not necessary, in fact, it is important that the iron be acted upon by the gastric contents so it can go into solution quickly as absorption takes place mainly in the duodenum and to some extent in the pyloric portion of the stomach. In general, the more severe the anemia the more iron is required, but the exact dosage can only be established by frequent hemoglobin determinations and clinical experience. Factors which inhibit the absorption of iron are absence

of thyroid secretions or vitamin C and the presence of various diseases such as infections (hence the necessity of searching for and removing every source of focal infection) and nephritis. It is usually advisable that patients take one to two glasses (6 to 12 ounces) of orange juice or grape fruit juice daily so that sufficient vitamin C is available (or the oral administration of 100 mgs. of cevitamic acid daily). Parenteral iron therapy is unnecessary (and may cause disagreeable or dangerous reactions) except in those unusual instances where iron cannot be taken by mouth. Usually the administration of liver with iron is unncessary in hypochromic anemia. Murphy, however, advises the muscular injection of 3 cc of liver extract (prepared from 100 grams of fresh liver) at weekly intervals "to hasten the improvement of the blood and especially the patient's general physical condition." This is equivalent to the effects obtained from the oral ingestion of about 12 lbs. of fresh liver. Such supplementary liver treatment is only advisable when the red cell count is also low.

TABLE II

THREE OF THE LEAST EXPENSIVE FERROUS SULPHATE PREPARATIONS

Preparation	Size	Iron Content Per 100 Mgs.	Cost Per 100	Cost Per 100 mgs. of Iron
Ferrous Sulphate Tablets U.S.P.	5 grs.	100 mgs.	50c-90c	0.5-0.9c
Feosal Tablets	3 grs.	63.5 mgs.	90c-$1.00	1.4-1.6c
Hematinic Plastules	5 grs.	95-100 mgs.	$1.35-$1.50	1.4-1.6c

It is highly advisable to regulate the patient's diet to secure an adequate amount of vitamins and iron. In general the diet should be liberal in animal proteins, fruits and green vegetables. The high amount of iron in liver, heart and kidney makes it advisable that these meats be included in the diet a number of times each week.

Quick has recently restated the necessity of doing everything we can to enhance the effect of radiation by vigorous use of anti-anemic medication, etc. He states,

"In our seach for ways and means of rendering tumor tissue more sensitive to irradiation and normal tissues more resistant, even though slightly, we must not lose sight of the biophysiological factor. It has long been known that an optimum response to a given amount of radiation does not occur in the presence of a secondary anemia or in the presence of that major factor in the production of secondary anemia in the cancer patient — low grade mixed infection.

"In other words, the optimum response to therapy is attained only in a patient whose general appearance and sense of well being is at a high level and who is physiologically in balance.

"Those of us who have been aggressive during the past few years with liver and vitamin therapy along with free use of blood transfusions to support our specific radiation therapy are convinced of the value thereof.

"In our seach for tumor sensitizing and selective action agents and normal tissue resistance builders, there is a wide field for further careful investigation in a systematic study of the anti-anemic preparations, vitamins and specific hormones."

CONCLUSION

With the increasing use of radiation methods in the treatment of malignancy, physicians should be conversant with the fact that patients suffering from profound secondary (hypochromic) anemia usually respond poorly to irradiation. It is imperative, therefore, in treating malignancy sufferers, that the blood picture be studied and efforts be made promptly to combat the anemia if and when it is present.

Ferrous sulphate, because of its relatively high iron utilization, requires the smallest daily dosage and is the most economic iron preparation to prescribe in the treatment of hypochromic anemia. After all it is the number of milligrams of iron that are utilized by the body that counts in the treatment of this condition.

(I am grateful to Dr. Roy R. Kracke, Prof. of Pathology, Emory University School of Medicine, for his kindness in reviewing this paper before publication).

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JAUNDICE ASSOCIATED WITH GIARDIA LAMBLIA INFESTATION

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Some months ago a patient came to me complaining of jaundice. He had been advised to undergo a cholecystectomy elsewhere and it was my first impression, also, that surgical intervention would probably be necessary. However, in the course of a diagnostic study, which will be described later, myriads of Giardia lamblia were found in the bile contents. Treatment with atabrine resulted in prompt relief of the jaundice and no parasites were found in the bile drainage thereafter. Had this patient been operated upon no beneficial end result would have occurred and theoretically, at least, some harm could have resulted. With this in mind, it is my purpose to briefly review the available literature and present a case report.

Giardia lamblia was first discovered by Leeuwenhoek in about 1675[1]. It was again discovered by Lambl in 1859[2]. In 1915 it was classified by Stiles[3] as being a protozoan of the class Mastigophora, subclass Zoomastigina, family Octomitidae, genus Giardia lamblia. This class is otherwise known as the flagellata. The morphology of the Giardia is divided into two phases, the trophozoite and the cystic stage. The former is found in the upper intestinal tract, unless diarrhea occurs, when it may be recovered in the stools, while the latter is found in the stools. This protozoan is found in practically all countries but it is said to be more prevalent in tropical and subtropical climates. It is transmitted by ingestion in food contaminated with the cysts. It is very prevalent in areas where sanitation is poor such as it is in large industrial districts[4, 5]. From studies on the incidence of infection, this parasite is found to be the commonest intestinal flagellate. Numerous articles have been written on the subject of Giardia lamblia infestation of the bile tract. Prior to 1937, these articles,[6,7,8,9,10,11,12,13,14,15,16,17,18,] in the main, dealt with case reports of cholecystic disease associated with the finding of Giardia in the bile. There was much controversy as to the pathologic significance of this association. Treatment was unsatisfactory, at that time, and accordingly the authors could not prove that eradication of the parasite would cause alleviation of the symptoms. In 1937, Galli-Valerio[19] introduced atabrine, a highly efficient therapeutic agent for the treatment of Giardiasis. Since then, after observing the results of treatment in these patients, it is generally agreed among clinicians that Giardia lamblia can be pathogenic in the human.

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CASE REPORT

The patient, a white male salesman, age fifty-four years, was admitted to the clinic on December 1, 1941, complaining of jaundice. He stated that he first felt ill on November 10, 1941. At that time he noticed "a general bad feeling," he was "draggy" and drowsy and lacked an appetite. There was no history of pain or fever or chills. On November 12, 1941, he noticed jaundice and shortly thereafter he noticed light stools, dark colored urine and intense itching of the skin. Two days before admission he noticed a soreness in the right upper quadrant occupying an area of about the size of a man's hand. There was no history of diarrhea or of drug or alcohol consumption. He lost 18 pounds of weight.

The physical examination showed an obese, moderately jaundiced man with numerous scratch marks. The weight was 200 pounds. The blood pressure was 96/64; the pulse was 56; the temperature was 98° F. The liver edge was palpable three finger breadths below the costal margin and it was slightly tender. Otherwise the physical examination showed nothing of note.

The laboratory tests were as follows: The urine showed specific gravity, 1.023; reaction, acid; albumin, faint trace; sugar, negative. Bile was present 4 plus. Microscopically a few pus cells were present. The blood count showed the hemoglobin to be 76 per cent; the red blood cells numbered 3,650,000; the white blood cells numbered 7,200 of which 60 per cent were polymorphonuclears, 38 per cent lymphocytes and 2 per cent eosinophiles. The Blood Kline and Kahn flocculation tests for syphilis were negative. The stool test showed urobilin 4 plus, bile 4 plus and urobilinogen 2 plus. The stool was light colored and showed no blood or parasites. The blood icteric index was 96. The van den Bergh was direct immediate positive 4 plus and biphasic 1 plus. The electrocardiogram was essentially normal. X-rays of the chest and gallbladder area (without dye) were negative. Fluoroscopic examination and x-rays of the stomach and colon were negative. On December 3, 1941, a biliary drainage was done after the manner described by Kolmar[20]. The duodenal contents showed no parasites or bile. Ten minutes after the instillation of magnesium sulfate a golden yellow bile returned containing no parasites or sediment. Ten minutes later a darker thicker bile ap-

peared containing precipitated bilirubin and clumps of pus cells. No parasites were seen. Ten minutes later the bile became light yellow and no sediment was present. No treatment was instituted. On December 4, 1941, the biliary drainage was repeated. No parasites were seen in the duodenal contents. Ten minutes after instillation of magnesium sulfate a golden yellow bile was obtained. There were no parasites. Ten minutes later darker bile without parasites or pus cells was seen. Ten minutes later a light yellow bile was obtained without sediment. Ten minutes later a heavy sediment was obtained containing mucus in which were seen non motile Giardia lamblia in abundance. No treatment was instituted. On December 5, 1941, biliary drainage was repeated. Bile A, B and C all showed heavy precipitation of bilirubin. Bile B showed myriads of actively motile Giardia lamblia. On this date the icteric index was 96 or the same as upon admission. On December 6, 1941, treatment was instituted. He was given atabrine, grains 1½ three times a day for five days. On December 8, 1941, he stated that he felt much improved for the first time since the onset of the illness. His biliary drainage showed no Giardia and his icteric index had dropped to 59. On December 9, 1941, the stools were colored brown and the urine was clear colored. The patient stated that he "felt well." On December 10, 1941, the biliary drainage showed no parasites and the icteric index was 46. On December 13, 1941, he was dismissed. The biliary drainage was negative for parasites and the icteric index was 38. On that date the Graham-Cole cholecystogram showed a normally functioning gallbladder. On December 20, 1941, he returned for re-examination. He stated that he felt well. I could detect no jaundice although the icteric index was 25. The biliary drainage was negative for parasites.

COMMENT

It is not within the scope of this paper to prove that Giardia lamblia are pathogenic or that they can obstruct the bile duct by sheer force of numbers as is the opinion of Lyon and Swalm[14] or that the parasite may liberate a toxin, resulting in edema of the papilla of Vater and thus obstructing the duct as was expressed by Westphal and Georgi[6].

Nor can it be proven that this was or was not acute catarrhal jaundice, inasmuch as there are no good diagnostic criteria for catarrhal jaundice.

Suffice to say that patients having jaundice, associated with the finding of Giardia lamblia in the bile contents, should be given the treatment with atabrine. No harm will be done and a cure may result. These cases should not be operated upon unless there is some other operable organic disease associated with the Giardiasis and then only after the Giardiasis has been eliminated. Papke[21] reported twenty-two cases of Giardiasis of the bile tract. Four of these cases were operated upon, a cholecystectomy having been done. This was before the era of atabrine therapy. In three of those four cases only transitory improvement resulted and in one of the four cases "transitory aggravation" resulted. He explains this by stating that the body makes an attempt to compensate for the absence of the gallbladder by dilatation of Oddi's sphincter and that this results in insufficiency of the papilla of Vater with the result that infectious material from the duodenum may readily pass into the bile ducts. These four cases were given atabrine, later after its discovery, with complete relief of symptoms.

SUMMARY

1. Patients with jaundice should be examined for the presence of Giardia lamblia in the bile contents.
2. If Giardia lamblia be present, they should be given atabrine, grains 1½ three times a day for five days.
3. If the pathologic physiology is the result of the infestation with Giardia lamblia, an improvement should result promptly.

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ATYPICAL PROBLEMS IN APPENDICITIS

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Typical cases of appendicitis yield classical symptoms and signs and when brought before intelligent scrutiny present no complicated problems in diagnosis and management. The preponderance of typical material in appendix experience is liable to lull the surgeon into a state of charmed security and a sense of false confidence. From the heights of this elevated position he may be ignominiously toppled by a few experiences with atypical cases.

The elaboration of the following cases makes no attempt to cover the field of atypical variations of appendicitis but merely presents some of the difficulties and problems encountered by the author within a relatively short period of time.

Case 1. A young lad of four was brought into St. Francis Hospital with a history of an attack of asthma of one week's duration associated with some bronchitis and tonsillitis. Last night the child developed severe pain in the abdomen with drawing up of the right leg, with a fever of 101°, flushed face, rapid and grunting respirations and some cough. At the same time, the right abdomen was held markedly rigid and was extremely tender to pressure. The white count was 54,400 this morning and a throat culture yielded a hemolytic streptococcus and a pneumococcus type No. 19. X-ray of chest was inconclusive. Antipneumococcus serum was started. Blood culture was negative. The abdominal distension on admission, as well as the rigidity, disappeared the next day and did not recur. The leucocytosis increased to 60,000. Three days after admission, a thickening of the right flank with spasticity of right upper abdominal wall was found with greatest tenderness over the right costovertebral region. A KUB film was taken which showed a shift in bowel shadows to the left. Three days later the white count was down to 38,400. A diagnosis of a perinephritic abscess or of a retroperitoneal appendiceal abscess was made. Needle aspiration the next day yielded pus. A lumbar incision was made giving rise to the draining of considerable foul-smelling pus, smelling of bacillus coli infection. Along with the pus, a small flat hard stone was found. It was sent to the laboratory to determine whether it was a hard fecalith from a perforated appendix or whether it was a kidney stone. It was identified as a calcium phosphate stone which the pathologist assured me was more likely to arise in the appendix. Culture of the pus showed streptococcus hemolyticus and bacillus coli. Clinical recovery thereafter was prompt and rapid. Four months later, a McBurney incision was made and an elongated retrocecal appendix penetrating the posterior abdominal wall was found. Dissection had to be carried through the posterior abdominal wall in order to liberate the appendix and remove it from its retroperitoneal bed.

Comment: — Apparently the terminal end of the appendix had perforated extra-peritoneally and thus explained the absence of intra-abdominal pathology. An original abdominal incision would probably have set up a fatal peritonitis.

Case 2. A well built, well developed young woman of twenty-six was sent in to St. Francis Hospital by Dr. L. R. with an acute abdominal condition diagnosed as acute salpingitis. The presenting complaint was pain in the right lumbar region referring around the flank down to the groin and to the urinary meatus and accompanied by burning micturition. The present trouble started about 30 hours ago and was accompanied by nausea and vomiting. Temperature on admission was 98.6°; pulse 84. Patient stated she had hematuria in the past and a former attending physician was reported to have found pus and blood in the urine . She had two bowel movements today. The physical examination demonstrated acute tenderness over the right costovertebral area, along the right flank, right abdomen, groin and over the bladder. There was definite spasticity of the right abdominal muscles. There was tenderness over the left lower abdomen but not over the right. The white blood count was 20,800 with 87% polymorphs. Urinalysis

was negative. One hour later, definite rebound tenderness was elicited over the right lower abdomen.

Comment: — The possibility of an acute renal colic accompanying a pyelonephritis was considered at first but the negative urine and the subsequent demonstration of rebound tenderness over McBurney's point, led to the diagnosis of acute appendicitis. At operation, a highly inflamed retrocecal appendix passing upwards to the right kidney was found and removed. Convalescence was uneventful. It is well to remember that when the clinical diagnosis is in doubt, a subsequent examination within an hour or more may yield more conclusive clues that will suggest the diagnosis.

Case 3. A young married man of twenty-six was referred by Dr. G. U. for cramplike abdominal pain across the lower abdomen of twenty six hours duration. He had general malaise and nausea, no vomiting or urinary symptoms. He had a good bowel movement 5-6 hours ago. He gave a history of one previous attack. Physical examination showed general abdominal tenderness and marked rigidity with rebound tenderness over right lower abdomen and some tenderness in the right flank. X-ray of diaphragmatic region in the upright position showed no subphrenic air to suggest ruptured peptic ulcer. At operation, a perforated appendix, retrocecal in position was found and removed. Sulfanilamide powder was sprinkled into the wound and the incision closed without drainage. Postoperatively, the patient was treated as for peritonitis. He improved gradually and partook of a fair diet one week later. His abdomen, however, felt doughy, remained slightly distended and he had a persistently elevated white count. The incision shows no evidence of infection. A rectal examination disclosed evidence of a developing pelvic abscess. After further localization four days later, a large pelvic abscess protruding towards the rectum was drained by rectal incision. Subsequent to this, recovery was rapid.

Another case (in a young Jap) of perforated appendicitis with peritonitis which was operated and in which a pelvic drain was inserted, subsequently developed a pelvic abscess which required rectal drainage.

Comment: — It is interesting to note that a pelvic abscess may form in perforated appendix cases whether a drain *is* or *is not* inserted.

Case 4. The patient, a young man of twenty-six, was admitted to St. Francis Hospital for observation because of a gradual but persistent development of mild abdominal cramps around the umbilicus of a few hours duration accompanied by nausea but no vomiting. White count prior to admission was 8,000 with a normal differential count. A tentative diagnosis of mechanical obstructive appendix was made. At eighteen hours from onset the white count rose to 15,000 and an immediate appendectomy was performed. The appendix was enlarged and reddened and constricted by bands in its middle half. Some watery fluid emerged from the peritoneal cavity when the latter was first opened. The appendix was removed in the usual fashion with inversion of the stump. The patient was unable to sleep the succeeding night and by morning complained of considerable soreness and pain throughout his abdomen. Pain and restlessness continued and the temperature rose steadily until it was 104° at 11 P. M. An aching tenderness developed over both kidneys and bladder. The chest was clear clinically and urinalysis was virtually negative. Intravenous fluids and sulfadiazine were started. The patient's fever varied between 101° to 104° for three to four days with the white count reaching 21,000 and the Schilling differential showing a marked shift to the left with nuclear index of less than 5. An acute dilatation of the stomach developed, relieved by suction tube, and on the second postoperative day the scrotum became edematous with an underlying epididymitis of the left testis. Both spermatic cords were tender. On the fourth day, I observed some induration at the lower end of the incision. The incision was opened and some watery bloody pus having no odor, was drained. A culture was made and two days later the report indicated a culture of pure streptococcus hemolyticus, whereas a coincident blood culture was negative. Following this, the temperature reduced to normal and although the patient improved rapidly, he felt the toxic effects for several weeks.

Comment: — Streptococcus appendicitis is uncommon. Severe toxic symptoms following an operation on an uncomplicated appendicitis should make one actively suspicious. I attribute this patient's recovery to the immediate institution of sulfadiazine and to the administration of intravenous fluids.

Case 5. This case deals with a married woman of forty-nine who was operated for a huge multiple fibroid uterus. The history is of small consequence, the patient having casually noted a lump in the lower abdomen. Her only other complaint was an obstinate constipation. At operation in addition to the pathology of the uterus, a large appendix was found with a walnut-sized nodular enlargement in its middle to which the right tube was attached. A supravaginal hysterectomy was performed and the appendix and right tube were removed "in toto" with inclusion of most of the mesoappendix. The pathologist's report was carcinoma of the carcinoid type.

A preoperative diagnosis of a primary carcinoid of the appendix is extremely unlikely but it is well to remember that the condition does

not necessarily give rise to clinical manifestations even after the late formation of metastases. Besides the symptomless form, a carcinoid may take on the clinical course of a chronic appendicitis with or without crises, or may develop the clinical course of an acute appendicitis.

The typical carcinoid, first described by Oberndorfer and later by Mason, is a carcinoma-like tumor found in the appendix or in the intestine and although of low-grade malignancy is usually more malignant in the small intestine. The typical cells are the "argentaffine cells" which are thought to be sympathicoblasts. The tumor tends to be locally malignant and to mettastasize late.

The treatment of carcinoid of the appendix consists of customary appendectomy with removal of the meso-appendix. A local involvement of the small intestine should be treated by regional resection and anastomosis. The form with metastases must be considered in the same light as other carcinomata.

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REPORT OF TWO CASES OF GLYCOGEN STORAGE DISEASE IN TWO MEMBERS OF ONE FAMILY

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"Storage diseases" is the broad term used to designate a group of pathological states in which there is an abnormal deposit in the tissues of various organs, of normal tissue constituents (glycogen, calcium, fat, cholesterol compounds, phosphotides, kerasin, urates, hemosiderin, melanin, bilirubin etc. Some observers classify edema with this group). The fundamental mechanism in these storage phenomina has not been fully explained, but most observers believe that it is a metabolic disturbance. Some observers believe the phenomena is due to abnormal function of the endocrine system. It seems obvious that the abnormal storage of these substances is due to some abnormal physicochemical processes in which the reticulo-endothelial cells play an important role.

In 1929 Von Gierke, first described a pathological condition (since known as Von Gierke's disease), characterized by hepatonephromegaly and cardiomegaly, in which the hypertrophy of the organs is due to an abnormal deposit of glycogen in these organs. This phenomena has been also called "glycogen disease." However, "Glycogen Storage Disease" is much more descriptive and hence a better name for this pathological state.

The disease manifests itself early in infancy or early childhood and is probably of congenital origin. Its chief characteristics are an abnormal deposition of glycogen in the liver, kidney and heart producing marked hypertrophy and also associated with a hyperglycogenemia, a fasting hypoglycemia, spontaneous ketonuria, a tendency to hypercholesterolemia and sometimes lipemia, and an increased diastase content of the urine. Gradually the patients develop a marked secondary anemia of the hypochromic type, severe nutritional disturbances, and most frequently succumb to an intercurrent infection because of lowered resistance within the first year of life.

The two cases described below are reported, first, because this type of pathological state is relatively rare and should be reported for statistical purposes, second, because of the marked similarity of the two cases, involving a brother and a sister, and, third, because the time interval between the birth of the two patients was about nine and a half years. Unfortunately, because of circumstances beyond the control of the writers, certain of the clinical data necessary to establish an unquestionable diagnosis of glycogen storage disease could not be obtained, but the similarity of history and physical findings with definitely established cases makes the diagnosis most probable.

CASE REPORTS

M. B. S. Jr. (a male) was born on October 13th, 1931. The parents were both 25 years of age at the time, were healthy, and had no history of serious illness nor of consanguinity. This was their first child. The labor was only three hours long, the delivery was spontaneous, and except for some difficulty in delivering the shoulders was normal in every respect. The weight at birth was 10 pounds 8 ounces. At the age of four weeks, the mother reported he did not

seem satisfied with the breast feedings. Otherwise, he was well. His weight was 10 pounds 10 ounces, the heart tones were most pronounced immediately under the sternum and the baby "held his breath" once unitl quite cyanosed during the examination. Supplementary feeding of S. M. A. was instituted. At seven weeks the mother reported that the baby was doing well, except somewhat fussy at times, and he had some "colic". His weight was 11 pounds 7 ounces. The heart tones at this time were normal and the baby did not "hold his breath". At 8 weeks of age the child had a slight coryza, associated with one degree of fever, and anorexia which lasted three days. At nine weeks of age the baby was fussy and apparently not getting sufficient food; his stools were irregular. At this time the baby's weight was 11 pounds 6 ounces. Generally, the examination was negative, except that the liver was slightly enlarged. He did not appear to be as alert as formerly, and his tongue tended to protrude slightly. At 11 weeks the baby still was restless and did not sleep as much as normal. The weigh was 11 pounds 12 ounces and the liver was definitely larger, and the edge very hard. Three was a slight hycrocele developing on the right side. The heart was enlarged, but there were no murmurs. Within a few days the mother reported that the child had occasional "sinking spells" in which he suddenly became limp and blue. An x-ray of the chest showed his heart to be three times average size. At 12 weeks the child died suddenly.

A post mortem was permitted, but none of the tissues were to be removed. The thymus gland was normal, the lungs were normal, the heart filled two thirds of the chest cavity, and there was moderate amount of serous fluid in the pericardium. The large vessels leading to and from the heart were apparently normal. The myocardium averaged 7/8 in. thick. There was no valvular abnormality. The liver was enlarged one and a half times, markedly engorged, and the edge sharp and hard. The small bowel was greatly distended to one inch in diameter, while the colon appeared to be "spastic" and about 1/3 inch in diameter. The kidneys appeared slightly "nodular" but not enlarged. The cut surface of the heart, the liver, and the kidneys had a glistening appearance. Microscopic sections were not made. The pathological diagnosis was congenital hypertrophy of the heart with passive congestion of the liver.

C. S., a female was born April 5, 1942, (this was 9½ years after the birth of the first patient and there had been no intervening pregnancies). Labor was terminated by mid-plane forceps after rotation of an acciput posterior position. The infant had a large caput succedaneum but otherwise seemed normal. Birth weight was 8 pounds 13 ounces. The Moro reflex was present and the baby cried when handled. On the second day edema involving both lower extremities was noted. This was associated with slight cyanosis of the toes. During the succeeding few days the edema extended to the hips and appeared in the forearms and then entirely disappeared. There was slight protrusion of the tongue, but no difficulty in nursing. The baby left the hospital on supplementary feeding.

She failed to gain in weight, refused part of her feeding, and vomited some. She seemed less vigorous than the average infant and her cry was weak. From birth respirations seemed rapid and noisy. At 4 weeks of age her weight was 8 pounds 11 ounces. At 5 weeks of age her weight was 9 pounds and 4 ounces and she was very fussy.

At that time the parents moved to another city and the patient was not seen again until July 1, 1942 (age almost 3 months). She weighed 11 pounds 9 ounces at that time. She looked ill and had a dusky, suffused appearance. The skin was soft and of poor turgor. The tongue protruded. Respirations were rapid and shallow. Heart sounds were distant and faint. There was dullness throughout the entire left chest anteriorly and posteriorly; breath sounds were reduced. The liver on the right extended 3 fingers below the costal margin.

Urinalysis showed acid reaction, and negative albumin, sugar, acetone and diacetic acid. There was grade I pus in the urine. The blood count showed hemoglobin to be 78 (sahli), erythrocytes 3,260,000, leukocytes 11,900, polymorphonuclears 38, lymphocytes 58, eosinophiles 3, and basophils 1. Roentgen studies of the chest showed the heart enlarged grade IV, filling three quarters of the left thorax.

A diagnosis of Von Gierkes disease was made. Further clinical study and hospitalizataion were not permitted. The baby failed rapidly, refusing most all of her feedings and died at three and one-half months of age. It was not possible to secure a postmortem.

It is regrettable that the parents would not permit further and more complete study in this case. A fasting blood sugar and opportunity to repeat the tests for acetonuria would have been helpful. The one urine tested may have been obtained after ingestion of a feeding. After ingestion of carbohydrate acetone may temporarily disappear. Clinically both of these infants gave the classical findings of glycogen storage disease. It is of interest that Unshelm (quoted in Brennaman Practice of Pediatrics) in 1932 noted an association of generalized hydrops with glycogenosis.

RESUME

1. Von Gierke's disease is rare and should be reported for statistical purposes.
2. While these cases reported cannot be proven to be cases of Von Gierke's disease, the evidence presented is rather conclusive.

3. It is interesting to note two cases in the same family without any history of consanguinity, nine and one half years apart, with no intervening pregnancies, and with clinical histories and findings so closely paralleling one another.

ACUTE PSYCHOSIS IN SELECTEES

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When Congress authorized the armed forces of the nation to be increased, and set into action the machinery to induct the young men of this country into the army camps, there came about a decided increase in the number of mentally ill patients entering the state hospitals directly from the military service. This was to be expected. A transposition of a portion of the population from civilian life to military camps meant that the patients arrived from camp instead of from home, and not that there was any actual increase in total admissions. Reports from England (Maclay, Guttmann, Pegge, Wittkower, Wright) indicate that during this war there is no appreciable increase in the number of cases entering their institutions for the mentally ill. In the Elgin State Hospital the number of male admissions to the institution during the year 1940 was 944 and in 1941 it was 1005, an increase of 6%. This increase is consistent with the average rate of increase over previous years.[8]

In the five month period from December 1, 1939, to April 30, 1940, when there was little to indicate that the United States would actually be at war, 501 men were admitted to the Elgin State Hospital. From December 1, 1941, to April 30, 1942, there were 412 male admissions. This is the five month period when the actual war was in progress, and represents a decrease of 21%.

On May 1, 1942, 67 cases had been admitted to the Hospital from the camp. Of these, 25 have been permitted to leave the institution. 13 of this 25 fall into the group designated here as Schizophreniforms, or Schizophrenic reaction. 65 of the total 67 patients were diagnosed Dementia Praecox; 2 were diagnosed as belonging to the Manic Depressive group. In these, symptoms of withdrawal, ideas of reference, and dissociation of ideas were present, which colored the picture with Schizophrenic features.

For statistical purposes the diagnosis Dementia Praecox was made in the 65 cases in order to fit the approved classification of the psychoses. It was clearly indicated that 13 cases were Schizophreniform in character, but lacked some features of the so-called true dementia praecox and had, in addition, some symptoms which did not fit into the accepted concept of Dementia Praecox. And so there were two groups or forms recognized in the series. In one, the diagnosis was made of Dementia Praecox with no dissenting opinions among the doctors present. The anamnesis clearly indicated a Schizoid pre-psychotic personality and pointed with increasing certainly to the ultimate Schizophrenic psychosis if subjected to intolerable stress. This group of cases was identical to those coming from the civilian population. The onset of the personality change was relatively slow and insidious, culminating in a behavior that was recognized as pathological by the family. Prior to induction into the army camp these persons were inadequate in their behavior. Commencing in adolescence, their school records became poor, whereas at one time they were good students; eventually they lost all interest and finally left school. They tried to secure jobs but couldn't maintain a satisfactory work record, changing positions frequently, and doing work far below the standards expected of them by their families and associates. They were considered good boys who did not bother with girls, stayed at home and read books and listened to the radio. The army became a means of escape from a difficult environment. In many instances the youth was advised to enlist in the Reserves or the army in the hope that it would make a "man" out of him.

The form of the psychosis was likewise typical of the usual types of Dementia Praecox, with emotional apathy and indifference and bizarre psychotic mental contents, delusions and hallucinations. Most of them progressed to a chronic form, or if they did show signs of a remission,

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it was only partial, with the accompanying scarring of the personality. The prognosis was considered to be not too favorable.

In contrast to this, there were the 13 patients who were diagnosed variously as Schizophrenic, or Schizophrenic Reaction, and in one instance Psychoneurosis with Schizophrenic features. The history of these patients was decidedly different from the former group. The onset was more abrupt, the course of the psychosis was stormy and terminated as quickly as it began. It was of short duration, and the recovery was seemingly complete. The mechanisms involved and the situational factors were usually quite obvious.

In either group, there was no significant difference in the number that were drafted and the number that enlisted voluntarily in the army.

A case in point is John N. who was committed to the Elgin State Hospital, October 9, 1941. His family history is negative for nervous and mental diseases. He completed one year of High School, leaving at the age of 17 to obtain employment. This was in 1934 during the depression. For one year he worked in a lamp factory, and then secured a job as a factory hand, earning from $30.00 to $35.00 a week. He remained at this job until he was drafted into the Army in April, 1941. The father, who gave the history, stated that the patient was never interested in the opposite sex and preferred to associate with his group of boy friends. The patient himself admitted he did not care for the company of girls because "they were only interested in getting married." His personality was described as jolly, happy, and friendly. He was mechanically inclined and was always kept busy doing various sundry automobile repairing for his friends. The patient was in the military service only 12 days when he was admitted to the station hospital for observation for a suspected mental ailment. He expressed ideas of paranoid reference. His face was flushed and his mouth set. He appeared preoccupied, withdrawn, and never associated with the other patients on the ward. During the interviews his attention was difficult to hold. He expressed ideas of influence, feelings of unreality, and auditory hallucinations. An example of his stream of speech is: "When I want to take a shower — there is no way to explain it — the fellows — when I was working in there, there were a dozen carpenters in the place. I could hear a pin drop."

About a month after he was first admitted to the Station Hospital he became acutely disturbed and broke a number of dishes while working in the kitchen. It was apparent that he was disturbed by his hallucinatory experiences.

The patient arrived at Elgin State Hospital in October, 5½ months after the onset of his psychosis. His description as noted by the examining physician was "This patient is a rather wholesome appearing young man who in all his contact since admission here has impressed one as being an essentially normal individual. He smiles pleasantly and is energetic in his movements." The patient states, "When I first went there, I thought it was a swell idea, but the idea of bayonets got me. A person gave a demonstration as to how we should stick it in the person's gut and then rip them from the belly button to the heart. I got a funny feeling in my stomach as though someone had pulled a raw deal on me."

The patient remained at Elgin one month and was discharged as recovered. He was diagnosed Schizophrenia, catatonic.

Psychometric tests done by the Dept. of Psychology reported the following:

Prognosis Rating Scale—Favorable—score minus 13

Hunsicker Nash Personality Scale—Schizophreniform

Humm Wadsworth Scale—Paranoid

Guilford Scale—Social Introvert

His general efficiency was scored as good, performance score was excellent and the test reactions fair plus.

A follow up interview, 3 months after leaving the hospital, indicated continued good adjustment without evidence of psychosis.

Time does not permit a recitation of any more such cases, but this one represents the features which distinguish it from the usual concept of Dementia Praecox.

There was nothing in the histories of any of the cases to indicate the ultimate outcome of a psychotic episode. Invariably it is noted that the school record was good—average; no grades had to be repeated in Grammar School; usually the individual graduated from High School. Sometimes only the second or third year of High School was completed. But in such instances it was noted, with reasonable assurance, that the reason for his leaving school before completing the full course was legitimate. By that is meant the patient had not left school because of lack of interest or failing accomplishments, but because it was necessary to secure employment to assist in financing himself or his family.

The work record was good in all instances. Jobs were held in responsible positions at adequate wages, and this, usually in spite of the so-called lean years of depression. There were no excuses for leaving a place of employment such

as arguments with employers, or inability to get along with fellow workers. They didn't hold jobs like "usher in a theatre," or house to house canvassing of electrical appliances or Real Silk Hosiery salesman. They had factory jobs at $18.00 to $45.00 a week, or were employed on farms with duties that carries responsibilities.

In the history of the social activities, there again is a marked difference between the two groups. Contrary to the true types of Dementia Praecox, most of the cases of Schizophreniform Psychosis had a very satisfactory social life, judging from the usual standards. In school, they took part in the extracurricular activities, were members of fraternities or clubs, attended social functions regularly, played football or basketball, etc. In a few instances, instead of taking part in sports or social functions, they were employed after school, usually to augment the family income or to provide spending money for themselves. One case owned his own delicatessen store which was the only income for his family.

In checking the family history for hereditary influence, no history of nervous or mental diseases was indicated, which might point to possible hereditary tainting.

The sexual histories provide a different picture; with only a few differences between the two groups. In the anamnesis there was little to indicate any abnormal behavior or attitudes. Sometimes masturbation was admittedly known by the informants, sometimes only suspected, in most instances flatly denied. But there is a different story that the patient tells. When satisfactory rapport was established, a wealth of material concerning sexual maladjustment was disclosed. If the patient was evasive or blocked during this portion of the interview he usually gave very little more information when Amytal was administered. However, in all but a few cases, was the information completely unsatisfactory.

Invariably all cases, in both groups, expressed varying amounts of guilt feelings concerning their masturbatory practices. Heterosexual experiences were admitted by some. But, this was common to patients in both groups. There was, however, a significant difference. In the cases of true Dementia Praecox, where heterosexual contact was admitted, it usually was with a prostitute and the patient would very definitely indicate that no pleasure was derived from it, and the experience was limited to only one instance. Sometimes much material was expressed indicating strong guilt in this regard. In contrast, in the Schizophreniform group, many more cases admitted heterosexual experiences and was stated as a matter of fact. A few cases denied it on a basis of morals.

In the Schizophreniform group, latent homosexuality in varying degrees was present in all but two cases. They were overt homosexulas. This conclusion regarding latent homosexuality was based on such material as Paranoid References to their being called derrogatory names with connotations of homosexuality. For example, they believed they were suspected of being "fruit" or "queer." One case was troubled with this hallucinatory experience. In the barracks he heard the soldiers on each side of him asking him to perform fallatio on them. He stated that even at the time he fancied he heard the voices, he knew that both soldiers were sound asleep. Another patient was continuously fearful of undressing before all the other soldiers in the barracks, and yet, before entering the army camp he had, on numerous occasions, gone to the Y.M.C.A. to swim, and such exposure among the others there did not seem to distress him.

Some patients admitted actual homosexual contacts when much younger, either with a brother with whom he slept or mutual masturbation with his playmates. It is recognized that such histories can be elicited in many cases of true Dementia Praecox and is not peculiar to this small group of Schizophrenic Reactions. It is mentioned here to suggest the probable mechanism of sex conflict in the production of the Schizophrenic episode. A conflict in the sexual sphere was in all instances easily elicited.

A subjective rationalization by several of the patients indicates another approach to the study of causes. Although in these cases the evidence of latent homosexuality was present, the patient was able to cope with it and seemingly adjusted well in camp until he participated in war maneuvers. One patient stated he couldn't control his nerves when he heard the terrific noises

of the big guns. This episode marked the onset of his psychotic episode. Another dates the beginning of his nervous breakdown to the time he was on the rifle range and feared that he would be shot.

The onset of the acute psychotic episode occurs very shortly after the draftee arrives in camp. Although it may have been present, there was no evidence of apprehensiveness just prior to induction. In those cases where the homosexual conflict was strong the break occurred almost immediately after arrival in camp, from a few days to a couple of weeks. Some cases delayed a couple of months, but the change occurred with such incidents as related, concerning the war maneuvers.

The symptoms are in all instances alike, generally speaking. There is an acute onset, marked by confusion, bewilderment, auditory hallucinations and paranoid references. Hyperactivity, restlessness, combativeness and irritability are usually present. Stupor and indolence are found in others. But in all instances the recovery is seemingly complete in a very short time. Several of these cases had no evidence of psychotic behavior by the time they reached the hospital. The remainder showed definite signs of recovery within 24 hours after arrival and all of them were entirely free of symptoms within 2 to 10 weeks.

Although there are only 13 cases to represent the series of Schizophrenic Reactions it does not represent the true incidence of this class of psychotic patients. In a recent visit to a camp station it was revealed that the greater majority of soldiers detained in the psychiatric ward recovered completely even before their discharge from service, and were permitted to return home. Duval and Hoffman[9] state that "of the military cases studied, 47% were well enough to be discharged from the hospital in a few months," and further conclude that in such cases the diagnosis of Dementia Praecox is not satisfactory. The diagnosis lies between Dementia Praecox and Hysteria, they say.

Dementia Praecox is not the proper diagnosis in these cases. But, on the other hand, the total break from reality is not the accepted version of psychoneurosis. For purposes of comparison, and for the further purpose of not leaving the impression that this form of psychosis is peculiar to war conditions or even to the male population, and that it is not a new form of psychosis, the author has produced from the files of the Elgin State Hospital old cases, male and female, in which the diagnosis was made of "Dementia Praecox, catatonic excitement, recovered." Without mention here of specific symptoms, suffice it to say that the comparison was identical in all respects, the acute onset, the stormy course, the complete recovery. With further investigation, more such cases in civilian life will be revealed.

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DISCUSSION

F. G. Norbury, M. D. (Jacksonville): Mr. Chairman, Members of the Association: I am grateful for the opportunity to come before you. I am very much interested in Dr. Klow's paper and the material he presented, both from a psychiatric standpoint and from some contact from the military standpoint.

I think the conclusion that he read there at the last and the comparison of his own studies with the work of Duval and Hoffman is the thing that is of importance to all of us, both in civil and in military experience.

In the military cases that he reported, the situation was one where a conflict reaction has occurred that was more than the individual could stand and yet on a study of cases from civilian experience found in the records of the Elgin State Hospital, quite similar experiences were noted. I think that has a good deal of significance.

One other thing that has interested me in this general subject and which has a part in the development of the various conflicts is the combination of some situations that I put together. Some of them you may have undoubtedly read in various articles about things that particularly apply to the young soldier, and I am just going to take a minute or two to read these as I compiled them.

Difficulties likely to cause disturbances;
Separation from family ties;
Submission to new forms of discipline;
Change of daily routine;
A new occupation;
Imposition of many restrictions with little or no opportunities given for expression regarding them;
Enforced association with men of all walks of life;
Lack of privacy;
The change of ideas regarding killing.

Dr. Klow spoke of that in describing a case history and mentioned it often. I think that is very definitely a conflict element.

In what experience I had at the Billings General Hospital and some consultative work with the neuropsychiatric division there, I think the element of conflict that we see so often in the psychogenic disturbances in civil life is the biggest thing, and I think Dr. Klow has done those of us who are interested in neuropsychiatry a real service in pointing out some similarities in military and civilian experiences and in delineating the conditions in this special group of psychiatric disorders arising in military life.

Phyllis Wittman, Ph. D. (Elgin): I am very pleased with this opportunity of discussing Dr. Klow's paper because of my interest in the field of prognosis and functional disorders.

The most interesting and important finding in Dr. Klow's paper, as I see it, is the further corroboration of Langfeldt's hypothesis that schizophrenia, far from being a specific disease entity, is made up of many different types with process schizophrenia or true dementia praecox at one end of the prognosis continuum and the schizophreniforme type at the other end of the scale.

Of the sixty-five patients in Dr. Klow's study that were diagnosed dementia praecox, thirteen or 20% have made an apparently complete recovery. Either these cases are wrongly diagnosed or the concept of schizophrenia in its very broadest implications must be evoked. Certainly the Kraepelinian concept of dementia praecox does not fit this group either as to etiology, onset, psychotic reaction type or prognosis.

Dr. Klow's description of the remaining fifty-three cases, — those who appear to fit the classical picture of schizophrenia, — is also of corroborative import since they appear to verify the diagnostic and prognostic significance of Adolph Meyer's concept of the shut-in personality type.

The only question I have to raise is that as to the validity of the statement that the number of mentally ill patients entering the State Hospitals from military camps does not mean an actual increase in total admissions to the hospital. I think it does. At Elgin we have received sixty-seven young men from Army camps. This group, it must be remembered, is a select group and supposedly the obvious misfits, the psychotic and the potentially psychotic, have been weeded out.

The fact that in this group, apparently selected on the basis of physical fitness and mental stability, a fairly large number break under the tensions or trauma produced by camp life, is very significant.

Also the percentage of typical schizophrenics, — fifty-four out of sixty-seven cases, according to Dr. Klow's figures, — ought to make us question how carefully the selectees are evaluated before being inducted into Army life. Certainly the typical history of these cases, — schizoid personality, limited social interest, lack of sex interest and lack of drive, associated with inadequate economic adjustment, — at once raises the question of a schizophrenic reaction type.

All this, I think, points to the need for an adequate social service history, no matter how obtained, on men being taken into the armed services if a mental examination at the induction board is expected to do more than weed out the grossly psychotic cases.

Charles W. Read, M. D. (Elgin): I have enjoyed Dr. Klow's paper.

I have only one question to raise, and that concerns the interpretation of what is so easily termed homosexual panic. I have heard the phrase used often and always I have my misgivings as to whether we are not considering a phenomenon which accompanies this person's psychosis as an expression of one of his modalities, as we might say.

Whether this peculiar expression in the psychosis is to be considered as the cause for the psychosis, I am not quite satisfied. There is a bit, more or less, of homosexuality in all of us and we know the sexual drive is perhaps the most important one, — one of the most important ones, — that human beings have to deal with, but as Dr. Norbury has expressed it, these inductees have to deal with many difficulties in their adjustment to camp life. Many old conflicts have been revived concerning this and that and the other thing, and the question remains in my mind as to whether the total expression — or maybe only the partial expression — of the psychosis in the betrayal of homosexual perturbations, is the entire cause or merely an incidental phenomenon that should be seriously questioned before we label a mental break as a homosexual panic.

S. D. Klow, M.D. (Elgin): As to Dr. Read's comments, I am not going to argue the point now; it is just a matter of opinion. There are many factors, but I feel that although homosexual panic may not be the precipitating cause, the latent homosexuality may lay a foundation for a reaction that is brought on by these other factors that Dr. Norbury has added.

Dr. Duval, in his paper, has mentioned these other factors and either because our social histories were incomplete or it wasn't looked for particularly, I failed to find it as a very marked factor as a difference between the schizophrenic reaction and the true dementia praecox. There were perhaps even more cases of

broken up families, divorces, separations, deaths, and so on, that seemed to be the underlying cause of dementia praecox in the so-called true dementia praecox.

Dr. Wittman brought up the question that she doubted that there is an actual decrease. I chose two periods (they are only five month periods, I recognize), — one where we are at war and one where there is no indication that we are at war; but I believe that, as some of the writers have indicated, the probable reason for the decrease is that there are many cases of psychosis, and cases who are potentially psychotic because of a basic neurosis. But with actual war, particularly when the non-combatants are combatants, when the civilian population is subjected to bombing, etc., they have something real to worry about instead of something imaginary, and the psychosis may be delayed or even prevented entirely.

Then on the other hand, we have these youngsters coming in to the camps. I am mentioning now, not the thirteen schizophreniformes, but the other group who have an earlier breakdown because they are put in to the stress which perhaps may come on in civilian life at a later age. They would be the persons who come in as dementia praecox, — what we call late dementia praecox or those coming in after the age of thirty. There is more or less a balance of the two which results.

Thank you, S. D. Klow, M.D.

OCCULT BLOOD IN THE STOOL

Charles J. Drueck, M.D.,
CHICAGO

Macroscopic blood in the stool attracts even the patient's attention and sends him hurrying to his doctor. Occult blood found only during the course of a laboratory study of the feces may also be of serious import and may explain a patient's anemia. Even without blood in the stools anemia may develop in various intestinal stenoses and fistulas, diarrhea and dysenteries of all kinds. Ulcerative colitis, amebic dysentery, and the so called "mucous colitis" are all characterized by numerous stools daily which are watery and contain blood, mucus and pus and will produce a most profound hypochromic anemia. Kracke says that the infection of the bowel nor the loss of blood from the colon is adequate to account for the anemic state entirely. He believes that the diseased colon has lost its power to absorb sufficient iron and other products. A great many ulcerative lesions of the digestive tract may cause minute leakage of blood into the feces. Among these may be considered the following.

Pyorrhea Alveolaris: — The etiology of pyorrhea is not pertinent to this discussion but it is recognized that a number of systemic diseases may act as underlying causes to excite the chronic suppurative process in the mouth and this in turn perpetuates the systemic disturbances; among these may be mentioned malnutrition, diabetes, gout, anemia and endocrine dyscrasias.

The specific organism of pyorrhea, if there be one, has not been found. Endameba buccalis, staphylococci and streptococci are frequently found in the pus pockets but are only secondary invaders.

The gums bleed on slight provocation, and each time the teeth are brushed. This blood when swallowed may suffice to make a positive test, and suggest some gastrointestinal disease associated with occult bleeding.

.. *Gastric and Duodenal Ulcer:* — The incidence of frank hemorrhage in disease of the stomach, duodenum and gall bladder though rare is always interesting. In 568 duodenal ulcers reported by Eusterman[1], blood was noted in the stools in 73 (14 per cent), in 249 cases of gastric ulcer blood was found in the stools of 54 cases (22 per cent). In 500 consecutive cases of chronic and subacute appendicitis 8 cases showed blood in the stools, and in 2 of these pus was mixed with the blood; all had more or less intestinal irritation simulating colitis. White and Jankelson[2] reported twelve cases, six of their own, of gall bladder disease in which blood probably from the stomach or duodenum was found.

In cancer of the digestive tract the conditions are quite different. Occult hemorrhage from a cancer comes from the surface of an ulcerated tumor which is enlarging steadily, and here a negative test cannot be expected even after more than six days on a meat-free diet. This explains why about 98 per cent of all cases of cancer of the digestive tract occult blood can be demonstrated. This continuous seepage of blood from the affected area, applies to all mucous membranes. Therefore, the value of the examination of the feces in doubtful cases is self-evident.

1. Eusterman, G. B., St. Paul M. J., 15: 587, Dec. 1913.
2. White, F. W., & Jankelson, I. R.; New Eng. J. of M., 205: 793, October, 1931.

Oozing may also occur from an ulcer in a Meckel's diverticulum, although probably most of these ulcers are peptic. Until obstruction intervenes, the only positive finding in carcinoma of the small intestine is occult blood in the stool. Infestation with the hook-worm likewise causes minute bleeding. Certainly the old teaching should be re-emphasized, to examine the stool for occult blood in all cases of anemia of doubtful origin. The objection to chemical tests has been the difficulty in ruling out anal or oral bleeding. Although meat in the diet is a potential source of error, its importance has probably been unduly stressed.

Symptoms: — The signs of complications of occult bleeding should be anticipated. The sudden loss of a considerable amount of blood by vomiting or in the stool often causes unconsciousness, while a slower hemorrhage of smaller amount manifests itself only by giddiness and weakness. It is often for these latter symptoms that the patient consults the physician, when there is hemorrhage without vomiting and no obvious discoloration of the stool. In all these cases pallor of the face and mucous membranes, subnormal temperature, and a frequent, small pulse are the most prominent signs. At this time there is an associated anemia of hypochromic type and low color index.

Carcinoma of the Rectum: — Mr. J. T. case 63153, age 79 years was in good health until 3 years ago. He began having diarrhea 6 months ago. The onset was insidious. He has had bowel movements as often as every 15 minutes during the day and every hour at night. At present he has frequent movements during the day but only one at night. The stools are diarrheal with much mucus. Perhaps once a month he has noticed blood clots in the stools. His appetite is good.

Blood morphology — R.B.C. 3,800,000
W.B.C. 15,000
Color index .44
Neutrophiles 70
Eosinophiles 7
Lymphocytes 15
Monocytes 8

Gastric contents Hcl-free-6, total-26

Examination: He was very thin and pale, and inclined to doze most of the time. A firm nodular neoplasm obstructed the upper rectum and sigmoid, and allowed only a small passage. There was involuntary defecations and urinations.

Treatment:

1. He was placed on a low residue, but high caloric and high vitamin diet.

2. The bowel was washed each day with 1 quart of 1-20,000 potassium permanganate solution. As the obstruction was relieved the diarrheal incontinence was controlled. Under this care his erythrocytes rose to 4,000,000 and his leukocytes dropped to 9,000. Interesting features of this patient are that though he had a malignant tumor of the rectum which caused chronic obstruction it never became acutely complete; it did not cause sharp hemorrhage; nor did he have pain at any time. He never had anorexia but always enjoyed his food. He died of inanition and aplastic anemia.

Intestinal Parasites: — The action of intestinal parasites cannot be strictly termed bleeding from the bowel though the anemia caused by such infestation of the human digestive tract renders them a cause for search in every complete gastrointestinal study. The intestinal parasites relatively frequent in the temperate climate are the cestodes

Tenia saginata.....common tape worm
Tenia solium.....pork tape worm
Bothroiocephalus latum.....fish tape worm.

The nematodes are

Ascaris lumbricoides
Oxyuris vermicularis — thread worm

Symptoms:

Most patients present themselves to their physician because they have seen segments in the stool, others because of disturbances of the intestinal function such as sharp abdominal pain, fatigue and headache, but in some and especially with infestation with the Bothroiocephalus latum there may be a severe hemolytic anemia, hyperchromic in type, and resembling Addison's disease. After the parasite has been expelled the blood returns to normal.

Any type of infestation with intestinal parasites is likely to be accompanied by a severe degree of anemia; of these, hookworm infestation is one of the most widespread, particularly in the subtropical and temperate regions. They all produce a hypochromic anemia except the fish tapeworm which produces the macrocytic hyperchromic type.

Most of the symptoms of the patient with intestinal parasite infestation are due to the anemia. The pallor, the marked weakness, the excessive fatigue, the loss of appetite, the gastrointestinal and abdominal cramps, are apparently due in a large part to the anemic state. Hemorrhage appears to play a very little part.

It has been thought by some that the worms actually suck blood from the intestinal mucosa. However, it appears more likely that the worm elaborates something that depresses bone marrow function in its capacity to form the hemoglobin molecule. There may be an actual interference with absorption of iron from the intestinal tract.

Pernicious Anemia: — The symptoms of pernicious anemia may be divided into 3 main groups, depending upon whether they are associated with the anemia, the changes in the central nervous system, or those referable to the gastrointestinal system. In a large percentage of patients there are usually manifestations, of varying degree, representing each group. In some patients the conspicuous and persistent symptoms are those associated with the anemia, with only minor evidence of involvement of the nervous and gastrointestinal systems. Others may complain chiefly of neurological symptoms and have slight if any, indication of anemia or gastrointestinal disturbances. It is not commonly noted that the gastrointestinal symptoms are the predominating features of the clinical picture, and occasionally nausea, vomiting and abdominal discomfort constitute the patient's chief complaints. Symptoms associated with the digestive tract, although they may be mild, are probably the most constant of all and occur to some extent in almost every patient with the disease. Attacks of sore tongue are of the greatest importance from a diagnostic standpoint, as this symptom occurs in about 65 per cent of patients. The intensity of this complaint varies widely from a mild "rawness" which causes but slight discomfort, to an involvement which makes eating and drinking difficult. The patients often complain that acid, salty or hot foods greatly aggravate the condition.

One characteristic feature of the glossitis is the tendency to recur at intervals. The condition may be present for several weeks or months and disappear spontaneously for a similar length of time or longer, only to reappear again after a variable period. The glossitis usually occurs with greatest intensity and at more frequent intervals when the anemia is pronounced, but there are important exceptions to this statement. For example, the glossitis may be the inaugural symptom of the disease and occur several years in advance of all other manifestations. When the modern treatment of pernicious anemia is employed, the tongue symptoms usually disappear promptly, but this is not always true, as the blood may return to normal and the glossitis remain as the sole evidence of the disease.

A poor appetite or actual aversion for food is the rule, but at the beginning of a remission, spontaneous or induced, the appetite may become ravenous. Since the patient usually consults the physician during the relapse, anorexia is the commonplace complaint. The appetite is usually impaired as the red cell count falls but not always, an occasional patient may have a severe anemia and have a normal appetite while another may have a normal red cell count and complain of anorexia.

Nausea and vomiting is a complaint in about 50 per cent of the patients. In most instances these symptoms are of a mild nature and occur at infrequent intervals, but they may become prominent initial symptoms, or only when the anemia is severe.

Abdominal distress described as "heaviness" in the upper abdomen, and with the distention of the intestines with gas, is very different than the severe abdominal pain of gall-bladder disease.

Disturbed bowel function is usual. Diarrhea is a prominent symptom in about 33 per cent of patients. In most instances it appears in attacks of several weeks duration, but it is usually of a mild nature. Occasionally, however, it may be the outstanding clinical feature of the disease, which persists for months.

Constipation is a more frequent symptom, it occurs in fully 50 per cent of the patients. This complaint cannot always be attributed to the pernicious anemia as in some instances it has been present for years. In about 50 per cent of the patients there may be alternating attacks of diarrhea and constipation.

The cause of these several gastrointestinal symptoms has been variously though not satisfactorily explained. It has been suggested that among these underlying factors are the anemia; the achlorhydria; a neurogenic lesion associated with the spinal cord changes; infection of the

gall bladder; and an intrinsic, as yet unknown, factor involving the gastrointestinal tract, which may be the fundamental etiological basis of the disease.

In some instances, cancer of the colon may be associated with the blood picture which resembles pernicious anemia. As the age incidence of cancer and pernicious anemia are the same and an achlorhydria may be present in patients with malignant disease, the diagnosis may present some difficulties. X-ray evidence usually differentiates the conditions and the physical examination, proctologic examination, and the test for occult blood in the stools, usually make the diagnosis clear.

Diverticulosis: — Gross bleeding is infrequent in diverticulosis of the colon. When it does occur it is dependent upon ulceration of a diverticular pouch.

Mesenteric Vessel Accident: — Thrombosis of a mesenteric vein or embolism of a mesenteric artery are both comparatively rare. The symptoms are those of acute bowel obstruction combined with the signs of a severe hemorrhage due to the effusion of a large amount of blood into the bowel.

Diarrhea with True Achylia or Hypochlorhydria: — Elsewhere in these pages we shall mention the lack of hydrochloric acid in the stomach contents in anemia associated with colon and rectal disease. There is a type of diarrhea dependent on either a true or possibly inherited absence of normal secretion. In the achlorhydrias of carcinoma, pus, mucus and blood are frequently found in the fasting gastric residuum by gastric analysis.

The diarrheal stools in a patient with the diarrhea of achylia, as a rule, are neither frequent nor fluid, but rather loose and mushy, and may be formed from time to time, depending on the intake of food. The stools are a paler brown than normal and contain neither mucus nor blood. The patient is seldom incapacitated, but complains of lack of physical vigor and is often neurotic (just as in early primary anemia).

58 East Washington Street

MUMPS WITH EDEMA OF THE CHEST

JOSEPH N. RAPPAPORT, M.D.

EVANSTON

Epidemic parotitis with involvement of both parotid glands occurs frequently. Involvement of the submaxillary and sublingual glands either alone or in combination with the parotid glands is occasionally seen. The more common complications which are listed in the standard textbooks include orchitis, meningitis, meningoencephalitis, acute pancreatitis, deafness, nephritis and conjunctivitis. Among the rare complications are listed blindness, endocarditis, pericarditis and pneumonia. However in searching through two standard textbooks and two systems of pediatrics, no description of mumps complicated by edema of the chest wall was found although this complication was mentioned in Abt's System of Pediatrics. In addition no report with such a complication could be found listed in the Quarterly Cumulative Index Medicus during the last ten years. It therefore seemed probable that this must be a rare complication and that a description of two cases which were seen during a period of fourteen months might be of interest. The swelling of the face in each case was typical of mumps and this diagnosis was further substantiated by another case of this disease which developed in each home.

CASE I

James M., age three years, developed mumps on February 21, 1941 with involvement of all the salivary glands . At this time the child seemed quite well except for the swelling of the face . On February 25th, the mother noticed that the anterior aspect of the neck was swollen and by the following day the upper portion of the anterior chest wall was also involved to the level of the third right and fourth left intercostal space. There was a definite edema of the chest wall as shown by a quivering of the skin when this area was tapped lightly with the finger. The skin was not tense and yet there seemed to be a considerable excess of fluid beneath it. The disease ran the usual course of an uncomplicated mumps with the swelling of the salivary glands decreasing first. Only after the swelling of these glands had decreased considerably did the edema of the chest wall diminish and finally disappear on March 6th, 1941. There were no other complications and the child made a complete and perfect recovery. He was not

toxic at any time during the illness and seemed to be no more uncomfortable than any other child with an uncomplicated parotitis. A brother also developed mumps on February 26th, 1941 with all of the salivary glands involved but there was no edema of the chest in this case.

CASE 2

Charles S., aged 5½ years, developed mumps on April 8th, 1942 with all of the salivary glands involved. On April 10th the swelling had extended down the neck and anterior chest wall to the level of the second right and third left intercostal space. The area on the chest presented the same quivering appearance when tapped lightly with the finger as noted in case No. 1. At this time the rectal temperature was 102 degrees. Two days later the swelling of the chest wall had disappeared and the temperature was normal. The swelling of the salivary glands had entirely disappeared by April 14th, 1942. No other complications developed and the child at no time appeared to be toxic. There was complete and perfect recovery. Nineteen days after the onset a sister developed mumps involving only the parotid glands.

It would seem probable that this type of complication may be explained on the basis of a disturbance in the normal flow of lymph from the anterior chest wall and neck. According to Cunningham's Textbook of Anatomy, the superior deep cervical glands receive lymph from the submaxillary, sublingual and parotid glands and drain into the inferior deep cervical glands. The latter also receive lymph from the neck and upper part of the thorax. The flow from the three infected salivary glands on each side might overload the superior group of glands and carry over to the inferior group. This increased load on the latter apparently impedes the flow of lymph from the neck and upper part of the anterior chest wall causing an accumulation of fluid in these regions with subsequent edema as described in the two cases above. As the infection in the salivary glands subsides, the load on the superior and inferior lymph glands is diminished with resumption of normal lymph flow and disappearance of excessive fluid in the neck and chest wall.

2650 Ridge Avenue.

"The first and greatest need is education; education of the people and through them education of the state."—Trudeau

There are one and one-half as many deaths from tuberculosis among men as among women. The preponderance of deaths among men is in the older age groups, the reverse is true among women. Mary Dempsey, Nat'l Tuber. Assn.

SEEK PHYSICIAN VOLUNTEERS FOR SERVICE IN INDUSTRY AND OVER-POPULATED AREAS

A request by the directing board of the Procurement and Assignment Service for physicians over the age of 45 to volunteer for service either in industry or in overpopulated areas is published in *The Journal of the American Medical Association* for December 26. The request follows:

"The directing board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians wishes immediately the name of any doctor who is willing to be dislocated for service, either in industry or in overpopulated areas, and who has not been declared essential to his present locality. This is necessary if the medical profession is to be able to meet these needs adequately and promptly. Any physician over the age of 45 who wishes to participate in the war effort in this way should send in his name immediately to the state chairman for the Procurement and Assignment Service in his state."

CIVILIAN HEALTH

"National defense calls for the mobilization of all national resources. Fundamentally they may be classified as raw materials, financial resources and man power. More briefly they are the three M's — Materials, Money, and Men, and the greatest of these is men. In fact, the whole structure of national defense depends upon the human element. Since man power is the arch supporting the national defense program, it is good medical engineering to examine the strength of this all-important element.

In terms of national defense, man power means vastly more than soldiers, sailors, and marines. It even goes beyond those who are engaged in the so-called defense industries, and includes any and all who are capable of any kind of productive service. Anything that would add to or detract from the efficiency of the various varieties of man power is of vital importance to national defense. Just as water does not rise above its level so man power is no better than the source from which it is drawn. The source being the civilian population, an inquiry into civilian health and its bearing upon the man power of the nation is of foremost concern."—K. E. Miller, Medical Director, U. S. P. H. S.

★ BUY WAR BONDS ★



Honor Roll

DOCTORS IN SERVICE WHOSE NAMES DID NOT APPEAR ON THE LIST PUBLISHED IN THE JANUARY ISSUE

BY NAME AND COUNTY

Abelson, Sol M., Cook
Addenbrooke, Edward, Cook
Angel, Norman S., Cook
Armstrong, R. B., Winnebago
Axel, Carl, Lee

Baker, Kenneth C., Knox
Barrow, Leonard A., Cook
Becker, John C., Cook
Berardi, James B., Cook
Beresky, Tibor, Cook
Bergstrom, Paul L., DeKalb
Blanck, Earl E., Cook
Blomberg, Thorsten E., Winnebago
Bond, Ian H., Cook
Bratrude, Amos P., Lake
Bridgegroom, High, Cook
Brown, Leo J., Jackson
Bryant, Joe, Cook
Burge, Edward S., Cook

Cahan, Max Z., Lake
Caliendo, Joseph E., Cook
Casciato, John J., Cook
Chrisos, Sam S., Cook
Crawford, Ray F., Cook
Culbertson, Roy F., St. Clair
Czyzewski, John F., Cook

Davis, Jack Raymond, Cook
Denker, Merle J., Cook
DePasquale, Leonardo, Cook
Diamond, Mortimer, Cook
Dicoscola, Ralph M., Cook
Dina, Salvatore, Cook
Dohrmann, George O. F., Cook
Dolan, Martin A., Cook
Dougherty, Roderick J., Cook
Duffy, Joseph E., Will
Dwyer, John J., Cook

Edahl, Edwin W., Effingham
Edison, Earl, Cook
Edwards, Gilbert H., Perry
Edwards, Robert W., Cook
Eisenhardt, Robert C., Cook
Eisenman, Leon S., Cook
Engelbach, Hermann F., Morgan

Falk, Henry, Kankakee
Freeman, John J., Cook
Fried, Julius L., Cook
Friedell, Hymer L., Iroquois
Freser, George J., Cook

Gazda, Mace, Cook
Gburczyk, Frank H., Cook
Gawne, Charles B., Cook
Gaynes, Leonard, Cook
Gench, Raymond L., Sangamon
Geyser, Frederick P., Cook
Gillespie, Barnes
Glaser, William, Cook
Goff, Sydney B., Edgar
Golden, Maurice J., Cook
Greenberg, Mervin W., Cook
Greer, Miller, Fayette
Grendeske, Joseph A., Cook
Grill, Frank T., Cook
Grizzaffi, Anthony L., Cook
Guttman, Joseph R., Cook

Haeberlin, J. B., Jr., Cook
Hammatt, Harold Wayne, Macon
Hanks, Thrist G., Cook
Hartman, Clifford D., Lee
Hartnagel, Grant F., Effingham
Harr, Rasmus J., Cook
Haskins, William V., LaSalle
Hessin, Arthur L., Alexander
Highman, Walter J., Jr., Iroquois
Hoeksema, Henry, Cook
Hoverson, Emil T., Cook
Hunsaker, Curtis A., Williamson
Hurd, Henry H., St. Clair

Ilasi, Frank P., Cook
Irace, Henry E., Cook

Jacobs, William F., Cook
Jana, Edward C., Cook
Jansen, Edward L., Cook

Kaufman, Charles H., Cook
Kaplan, Joseph H., Winnebago
Karay, George N., Cook
Keller, Robert Stephen, DeKalb
Keren, Meyer J., Cook
Kerman, Willard Z., Cook

Kirsch, Ralph, Cook
Klein, Ernest S., Cook
Klein, Thomas, DeWitt
Koziol, Stanislaus M., Cook
Kraines, Samuel H., Cook
Krakov, C. S., Cook
Kroulik, William J., Cook
Krueger, Francis J., Cook
Kullman, Paul J., Cook
Kuman, Stanley J., Cook

Larson, Wilbur M., JoDavies
Law, Otis H., Livingston
Lawrence, James O., Cook
Leavitt, Harry C., Kankakee
LeBlanc, John, Madison
Lee, A. L., Cook
Lenz, Charles, Sangamon
Levin, Aaron S., Cook
Levin, Jack, Randolph
Levitin, Emil D., Cook
Levy, Harry M., Cook
Lodato, Victor, Jr., Cook
Loeppert, William A., Cook
Lucatorto, Vito R., Cook
Lustigman, Herman, Cook
Lyle, Francis M., Grundy
Lynn, Lawrence W., Cook

Macaluso, Leonard A., Cook
Magill, Clark R. W., Cook
Marion, Charles J., Cook
Marino, Joseph D., Cook
Masor, Nathan A., Cook
Matheson, Abe., Cook
May, Martin M., Williamson
Maydet, Simon J., Cook
McDonald, Roderick L., Jo Daviess
McGary, Clarence G., Cook
McPherron, Raymond H., Cook
McVety, Thomas W., Mason
McVey, Emerson K., Cook
Meier, Donald A., Cook
Merto, Michael L., Madison
Meyer, Hershel, Cook
Miller, Nathan H., Cook
Mills, John H., Grundy
Mishkin, Herman L., Cook
Mladick, Edward A., Cook
Montgomery, M. M., Cook
Moskal, Frank J., Cook
Mueller, George R., Cook
Myers, Asa L., Lake

Nast, Alfred G., DeKalb
Neims, Irving M., Cook
Newcomb, Alvah H., Cook
Norak, Walter V., Cook
Nowak, Frank J., Cook

Pachynski, Bernard L., Cook
Pass, Bernard J., Cook
Pardoll, Davis H., Cook
Patejdl, William, Cook
Pavletic, Nicholas B., Cook
Pawlikowski, Joseph S., Cook
Percy, George L., Cook
Perlow, Samuel, Cook
Pintozzi, C. J., Cook
Plucinski, Stanley J., Cook
Pope, George J., Cook
Poticha, Joseph S., Cook
Probasco, John L., Winnebago
Prickett, F. L., Christian
Purcell, Paul W., Cook

Ramsay, Samuel W., Cook
Rankin, James T., Winnebago
Rasmussen, Richard A., Cook
Ranquist, Robert C., Cook
Ricci, Henry N., Cook
Riley, William J., Lake
Robertson, Thomas S., Cook
Rosi, Alcide L., Cook
Rosi, Peter A., Cook
Rothschild, Robert R., Cook
Rottman, M. M., Cook
Rottschafer, Henry W., Cook

Sanford, Heyworth N., Cook
Sazma, Russell J., Cook
Schiff, George N., Cook
Scholnik, Sol, DeKalb
Schreiber, Adrian L., Boone
Schultz, Adam S., Cook
Schwartz, Bernard, Cook
Schwartz, Max J., Cook
Seaton, Ralph M., Christian
Seltzer, Sam, Cook
Shafer, Roger D., Franklin
Shaffer, William T. J., Cook
Shafton, Arthur L., Cook
Shapiro, Irving J., Cook
Siegert, Frederick W., Christian
Siemsen, Walter J., Jackson
Sitney, Julian J., Cook
Sluzynski, Leonard S., Cook
Smith, Lyman W.,
Spafford, Howard Everett, DeKalb
Spiegel, Manuel, Cook
Stanelle, Wilbur F., Gallatin
Steiner, Matthew M., Cook
Stephens, Jerry H., Marion
Steinberg, Fred B., Cook
Strube, William E., Lake
Sullivan, Donald G., Cook

Tashman, Herbert, Cook
Taylor, John B.
Thomsen, Philip G., Cook
Toman, A. J., Cook
Torczynski, Vincent, Cook
Tosney, Harold J.

Ushkow, M. E., Cook

Verhaag, Joseph E., Cook
Vertuno, John W., Cook
Vincenti, Anthony, P., Cook
Vinnecour, Max I., Cook

Wajay, Louis A., Cook
Wall, John C., Cook
Wallheiser, Laverne M., Cook
Weed, Linton G., Christian
Weihe, Arthur R., Cook
Weimer, James I., Tazewell
Weinberger, Laurence, Cook
Weinman, George J., Cook
Werba, Daniel R., Vermilion
Wexler, Ralph M., Christian
Whaley, John H., Cook
Wicks, Mark, Cook
Willett, Bradford J., Cook
Winskunas, Felix C., Cook
Wittelle, Frank M., Cook

Zanette, Alfred M., Cook
Zencka, Edward A., Cook
Zimmerman, Harold W., Cook
Ziobrowski, Frank G., Cook

Corrections and additions to our Honor Roll will be appreciated. Send them to Dr. Harold M. Camp, Secretary, Monmouth, Illinois.

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES BY
Carl W. Apfelbach, M.D.
Presbyterian Hospital
CHICAGO

CASE 1 — MACROCYTIC ANEMIA AND ACUTE PULMONARY TUBERCULOSIS

This 69 year old white male was admitted to the hospital for the first time on 8/1/42 at which time his only complaints were constipation and hemorrhoids. He had the latter for thirty-five years but recently they had begun to bleed and cause pain.

Further questioning disclosed that he had moderate dyspnoea on exertion, expectoration of yellow, purulent fluid, night sweats for two weeks, edema of the ankles for one month, decreased ability to coordinate muscular movements, noticed when the patient was dressing himself, and liquid black-brown stools.

Physical examination revealed a moderately emaciated, senile, white male. BP 87/46, temperature 100.0°, and there was marked pallor of the mucous membranes and the skin was lemon yellow. The pupils reacted to light and accommodation. The chest had an emphysematous configuration. A systolic apical murmur was transmitted to the axilla. The spleen was easily palpable. The hemorrhoids were prolapsed. There was mild anasarca of the ankles. The tendon reflexes had a diminished response except the radial and patellar which were absent. There was no Babinski sign.

The hemoglobin was 5 Gm.; r.b.c. 630,000; color index 2:48; and w.b.c. 2,150. Poikilocytosis and anisocytosis were observed, in addition to a large number of macrocytes. Serum albumin was present in the urine; BMR was minus 4; sternal puncture disclosed a large number of megaloblasts; and achylia was present.

On administration of liver, the reticulocytes increased from 1.5 per cent to 48 per cent in one week. It was noted at this time that there was a marked discrepancy between the degree of anemia and emaciation, as usually observed in pernicious anemia. Examination of the chest on admission demonstrated moderate enlargement of the heart in the region of the left ventricle but no other changes. The sputum cultured on admission demonstrated type XVII pneumococcus, staphylococcus aureus and streptococcus viridans. The patient had daily fever of septic type which on one occasion reached 105.0° F. The usual blood agglutination tests for typhoid and undulant fever were negative.

At the end of ten days there was extensive mottling of both lung fields, particularly in the upper portions. At this time no acid fast bacilli were found in the sputum. Five weeks after admission to the hospital, another X-ray film of the chest demonstrated a miliary type of density involving both lungs, more marked in the upper lobes.

Fluoroscopic examination of the stomach and colon was negative. At this time it was believed that the patient might have an abdominal neoplasm with metastases to the lungs. Diagnosis before death was carcinoma metastases of the lungs with the primary tumor probably in

the left upper quadrant of the abdomen; pernicious anemia and subacute combined degeneration of the cord.

During the hospital stay the erythrocytes never rose above 2,200,000 and the leukocytes retained a normal level.

Autopsy — The body was that of an elderly, white male weighing 40 kg. and measuring 164 cm. There was slight edema of the ankles. The skin in general was pigmented pale yellow-brown. The antero-posterior diameter of the thorax was increased. The abdomen was scaphoid.

The subcutaneous fat was sparse. There were 600 cc. of clear, watery fluid in the abdominal cavity. The loops of small bowel and colon were collapsed. The spleen was only slightly enlarged, but was pushed inferiorly by a retroperitoneal mass which later turned out to be a large, solitary cyst of the upper pole of the left kidney (see Fig. 1).



Figure 1 — Solitary cyst of the left kidney.

When the thorax was opened the lungs were enlarged due to over-distention with air. In each pleural cavity there were about 50 cc. of slightly turbid, yellow fluid. There were disseminated fibrous adhesions in both pleural cavities, particularly near the apices. The pericardial fluid was clear and rigor mortis was firm in the left ventricle.

The lungs together weighed 1790 Gm. Throughout all lobes minute nodules were palpable which when cut into were found to consist of caseous material. The majority of these were 1 to 2 mm. in diameter. In the apex of the left upper lobe there was a group of confluent cavities, the entire mass only 6 cm. in diameter. The walls of the cavities were composed of caseous material only. In only a few of the tracheobronchial lymph nodes were there soft, caseous masses. No regions of calcification were observed.

The lining of the stomach was smooth and the entire wall thin, even though the stomach was not dilated.

The marrow in the cancellous portion of the lumbar vertebra and in the cavity of the shaft of the right femur was red.

Histology — In sections of marrow from the femur approximately 70 per cent of the tissue was myeloid tissue and 30 per cent adipose tissue. Eosinophilic myelocytes were numerous, whereas neutrophilic polymorphonuclear leukocytes were sparse. Megacaryocytes averaged one to two per high power field (x400). Mature erythrocytes were numerous but megaloblasts and macroblasts were found only occasionally. Acute caseous tubercles were present.

In sections of liver, spleen and lymph nodes from various portions of the trunk there were acute caseous tubercles.

In sections of the spleen there were small regions of hematopoiesis.

Numerous sections were made of the two lungs, and all the tuberculous regions were of a recent date, characterized chiefly by necrosis and sparse proliferation of epithelioid cells at the margins. Multinucleated giant cells were sparse.

In sections of myocardium there were occasional regions of necrosis of muscle bundles and exudate consisting of macrophages and lymphocytes.

In sections of both adrenal glands there were occasional tubercles.

In sections of the spinal cord there was no significant decrease in myelin content. In some of the ganglion cells, yellow-brown pigment was observed in the cytoplasm and occasional lymphocytic infiltrations near arteries.

In sections of the genital organs there was no evidence of tuberculosis.

Comment—From the clinical standpoint there are two unusual features. The spleen was made palpable not by enlargement of the organ but by being displaced by a cyst of the kidney, which

had nothing to do with the essential disease. Furthermore, the macrocytic anemia, leukopenia, achylia and paresthesias suggested pernicious anemia even though the degree of emaciation was out of proportion to that usually observed. The sudden appearance of disseminated regions of density in the lung, together with emaciation and the palpable spleen in the left upper quadrant suggested neoplasm rather than tuberculosis, which is usually considered to be relatively rare in old people from a clinical standpoint but which is known to be fairly common in elderly people from postmortem experiences. Another interesting feature of this disease from the anatomical standpoint has to do with the development of a fulminating pulmonary tuberculosis and generalized military tuberculosis in a person having one of the blood dyscrasias. It has been our experience that among the most rapidly developing forms of tuberculosis are observed in such diseases as leukemia and splenomegalic cirrhosis.

CASE 2 — RETICULUM CELL SARCOMA

The patient was a 69 year old white man who came to the Presbyterian Hospital on 3/15/42. He had been quite well up until six months before admission, except for abdominal distress that had been interpreted as due to a spastic bowel. The abdominal distress increased, to be followed by constipation, interrupted by short periods of diarrhea. Investigation of symptons from other organs, and the past and familial histories, were essentially negative.

The physical examination at this time demonstrated a slightly tender mass in the left lower quadrant. Colon and gastric fluoroscopies and intravenous pyelograms were negative. Endamoeba histolytica were found and the patient was treated for amebiasis.

A few months later he developed a severe pain in the abdomen radiating towards the left side, and also a precordial pain which came on toward the end of the day and which occasionally radiated toward the shoulder blades. A large, hard, firm mass was palpated in the left upper quadrant which moved with respiration and was interpreted as a large spleen. Blood Kahn test was negative. Colon, chest and gastric fluoroscopic examinations were normal. Serological examinations for typhoid, paratyphoid and undulant fever were negative. Blood cultures were negative. There were no other palpable masses anywhere in the trunk or lymph node regions. During the last fifteen days of the hospital admission he developed intermittent fever, reaching peaks of 102.0° F. edema of the back of the trunk and lower extremities and a gastric hemorrhage. He died on 8/28/42.

Examination of the blood at various times during illness revealed nothing except a slight secondary anemia, a white cell count of 5,000 to 6,000 and a slight decrease in the granulocytic leukocytes.

The anatomic diagnosis was: reticulum-cell sarcoma of the periaortic and peripancreatic lymph nodes, spleen, left adrenal gland, liver, diaphragm, and small intestine and rectum, lungs, renal pelvis, prostate gland, seminal vesicles, testes and thyroid gland; chylous ascites and bilateral hydrothorax; compression atelectasis of the lungs; slight anasarca of the lower extremities; acute mucopurulent tracheitis and bronchitis.

Autopsy — The body was that of a white male weighing 71 kg. and measuring 171 cm. in length. There was moderate emaciation as demonstrated by the flabbiness of the muscles of the extremities. The abdomen was distended. There was slight edema of the ankles and feet.

There were 1800 cc. of gray-pink, opalescent, watery fluid in the peritoneal cavity. The liver was displaced to the right by an enlarged spleen which weighed slightly more than 1700 Gm. The capsule was opaque and thickened and the surfaces made in all portions revealed approximately 60 to 70 per cent of each surface to be made up of small gray-yellow and gray masses varying from 2 to 20 mm. in dia., the small ones predominating. Between the evenly disseminated masses, the pulp of the spleen was pale red-tan. (See Figure 2). Surrounding the tail of the pancreas and extending into the hilum of the spleen there were enlarged, gray-pink lymph nodes, most of them tightly adherent to each other and many of them separated from each other by similar, homogeneous gray to gray-red, translucent neoplastic tissue. The

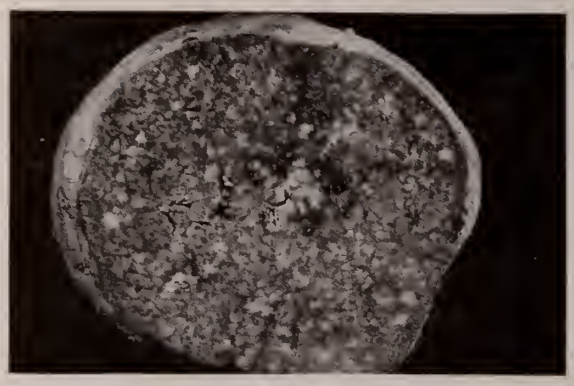


Figure 2 — Metastases of reticulum-cell sarcoma of the spleen.

distal third of the pancreatic tissue was largely obliterated by the growth of the neoplastic tissue between the individual lobules. The large lymph nodes about the pancreas were continuous with similar enlargements in the periaortic, gastro-hepatic and mesenteric lymph nodes, forming a mass about the aorta 7 to 10 cm. in dia. Similiar alterations were present in the iliac and mediastinal lymph nodes but here they were not as large as about the pancreatic region.

The infiltrations in the wall of the bowel were linear and confined to small patches in the submucosa.

Histology — The histological pattern of the neoplasm was similar in most of the lymph nodes and was characterized by dense reticulum, demonstrated in the Foot modification of Bielschowsky stain, by predominance of large cells with irregular borders for their cytoplasm, and by others which assumed a rounded, distinct boundary suggesting their relationship to macrophages.

Comment — The distribution of the lymphosarcomatous tissue was unusual from a clinical standpoint inasmuch as the only palpable mass was an enlarged spleen. Usually in this disease the palpable enlargements are confined to the cervical, axillary and inguinal lymph nodes and usually the enlargement of the spleen is inconspicuous.

As in Case 1, the palpable spleen directed clinical attention toward the more common splenomegalic diseases. In the first one the spleen was not enlarged but merely pushed inferiorly by a large, solitary cyst of the kidney, whereas, in the second case the enlargement was due to a very extensive infiltration of the spleen by the sarcoma, which is unusual in reticulum-cell lymphosarcoma.

Industrial health and tuberculosis in industry are topics of great concern to all nations at war. Britain, the senior partner of the United Nations by length of service, was confronted much earlier than we were by problems arising from the conversion of peace economy to war production. The following are from recent British publications:

Information about tuberculous disease or previous treatment at a sanatorium or dispensary should be made compulsory for all persons entering industry. This is the practice at military boards and there appears no legitimate reason why this should not be incorporated into the civilian industrial life of the country. Such a measure would ensure the control of infection in the interests of the health of the community. Naturally, such a course will occasion opposition. It will be argued that this represents an encroachment on the freedom of the individual; however, freedom would be an intolerable institution if it permitted an individual indiscriminately to infect with disease his fellow creatures. Bertram Mann, Tubercle, March, 1942.

Factors underlying the increasing incidence of tuberculosis are: the background of mental tension and anxiety due to the war which affects the population as a whole, — overwork, often associated with unaccustomed heavy work, with long hours —, usually with additional voluntary duties — resulting in marked fatigue, the increased exposure to infection from the large numbers absorbed in industry, — the overcrowding now prevailing, which must be regarded as an important factor in the spread of disease, especially when associated with "blackout" conditions and the lowered standard of nutrition associated with a restricted dietary. Sidney Deaner, Chief Tuberculosis Officer, Worcestershire County, England. Jour. Royal Inst. Pub. Health and Hyg., Oct., 1942.

Tuberculosis is coming to be regarded more and more as a disease of economics. Editorial, Tubercle, March 21, 1942.

BUY MORE
WAR BONDS
IN 1943

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

Alexander Brunschwig of the University of Chicago addressed the DuPage County Medical Society, January 20th, at the Elmhurst Community Hospital, subject "The Surgery of Carcinoma of the Pancreas."

Considerable interest was shown in the booth set up by the Chicago branch of the Medical and Surgical Relief Committee of American at the 11th annual convention of the American Academy of Orthopaedic Surgeons held at the Palmer House the last of January. The work of distributing Committee literature and the sale of Committee emblems is being handled by Doctor Bertha L. Isaacs, Chairman of the Chicago women's group with the assistance of Doctors Beulah Cushman, Margaret Austin, Marie Ortmayer and Dorothy Osterban. Funds obtained through the sale of the emblems will be used directly for the purchase of medical and surgical supplies for America's armed forces, and for first aid posts, needy hospitals, and other recognized relief agencies in the United States, Alaska and allied nations.

The following Chicago physicians are affiliated with the Committees, Bertha L. Isaacs, Beulah Cushman, Carroll Birch, Warren H. Cole, Morris Fishbein, Harry S. Gradle, B. C. H. Harvey, Oscar Hawkinson, Malcolm T. MacEachern, Dallas B. Phemister and Sidney A. Portis.

BIRTH AND HEALTH RECORD BOOKLET

The Division of Maternal and Child Hygiene of the Illinois Department of Public Health has prepared for experimental use in the home, 1,000 copies of an attractive and sturdily bound 3" x 5" *Birth and Health Record* booklet, designed to afford the family a convenient means of recording such important data about a child as the date and place of its birth, and notations on its physical development, its immunizations, and its medical history. Interested local health officers may obtain further information about this undertaking, on request, from the Springfield offices of the Illinois Department of Public Health.

CANCER ADVISORY BOARD APPOINTMENTS

Governor Dwight H. Green has recently announced his appointment of the following physicians to start new terms as members of the Advisory Board to the Division of Cancer Control in the State Department of Public Health: Dr. William Cooley of Peoria, Dr. F. Flinn of Decatur, Dr. Edwin F. Hirsch of Chicago, Dr. James P. Simonds of Chicago, and Dr. James S. Templeton of Pinckneyville. Unexpired terms are those of Dr. R. T. Pettit of Ottawa and Dr. J. A. Wolfer of Chicago.

Appointed in accordance with the requirements of the 1939 cancer control law, this Board serves in an advisory capacity to Dr. R. V. Brokaw, Chief of the Division of Cancer Control.

GREENE COUNTY MEDICAL SOCIETY

Minutes of a meeting of the Greene County Medical Society held in Carrollton January 8, 1943.

After a dinner at the East Side Cafe, the meeting then adjourned to the residence of Dr. A. K. Baldwin.

In the absence of the President and Vice President the meeting was called to order by the Secretary.

Dr. J. J. Sievers of the State Department of Public Health was introduced and spoke on "The Newer Treatments of Pneumonia." Moving pictures showing laboratory and other procedures were shown.

The lecture and the pictures were interesting and instructive. Note was made that since the more general use of the sulfa group of drugs has developed, the use of serum has dropped about 50%. The death rate from pneumonia has dropped to about 8% under the use of the sulfa drugs, and to a slightly less percent under both serum and the sulfa group.

Those present were, Drs. A. K. Baldwin and D. R. Martin of Carrollton. Dr. C. O. Bulger of Greenfield. Dr. C. A. Billings of Hillview. Drs. W. H. Garrison, F. N. McLaren, W. T. Stickley and R. W. Piper of White Hall.

The guest speaker was Dr. J. J. Sievers of Springfield, Ill.

W. H. Garrison, Secretary.

SPECIAL MEETING

The Chicago Ophthalmological Society at the request of the National Research Council will hold a special meeting in Chicago on Friday evening, February 19th, at the Medinah Club, 505 N. Michigan Ave.

Dinner will be served at 6:00 P. M. and the program will start at 7:30.

The vital question of EPIDEMIC KERATO-CONJUNCTIVITIS will be presented by Dr. Murray Sanders, Assistant Professor of Bacteriology at Columbia University, New York.

At the request of The Surgeon General, U. S. Army, Doctor Sanders is now engaged in a tour of the U.S.A. for the purpose of arousing the Ophthalmologists and the Industrial Surgeons to the dangers of the existing epidemic. The discussion of the topic will deal with the clinical aspects, the epidemiology, and the treatment of the disease, illustrated by Kodachrome films.

The meeting is open to all physicians. Ophthalmologists and Industrial Surgeons of the state are particularly urged to attend. L. G. Hoffman of Chicago is President and Vernon M. Leech of Chicago is Secretary.

Pliny R. Blodgett is the Republican candidate for Mayor of the city of Chicago Heights.

Dr. and Mrs. Morris Fishbein sent a generous contribution to The Chicago Heart Association Memorial Fund Founded in Memory of Morris Fishbein, Jr., in memory of Doris Holt Camp, wife of Doctor Harold M. Camp. The Fund is giving a gift of $1500 to the LaRabida Jackson Park Sanitarium to carry it through a difficult period.

This Fund was founded at the suggestion of Dr. and Mrs. Walter W. Hamburger in memory of Morris Fishbein, Jr., whose sad death occurred as a result of rheumatic fever on April 9, 1929. The original proposal designated that the Fund be administered by a committee of five trustees, and when a minimum of $25,000 had been accumulated, the income thereof would be devoted to research in problems of heart disease.

Dr. Rowine M. Hayes is now doing work at Children's Memorial Hospital under Dr. Stanley Gibson as a Fellow of The Chicago Heart Association Memorial Fund Founded in Memory of Morris Fishbein, Jr. The Trustees of this Fund are: Doctors James B. Herrick, Robert B. Preble, N. C. Gilbert, Stanley Gibson and Morris Fishbein.

COMING MEETINGS

February 10 — Post-Graduate Conference — Faust Hotel, Rockford, 12:30-8:00 for all doctors in Northern section of Illinois.

February 11 — LaSalle-Bureau County Medical Societies — Kaskaskia Hotel, LaSalle, 6:30 P. M. — G. Henry Mundt, M.D. — "Disease of the Ear, Nose & Throat."

February 12 — Will-Grundy County Medical Society — Louis Joliet Hotel, Joliet — 12:00 noon

February 12 — Jersey-Green County Medical Societies — White Hall — 6:30 P. M.

February 17 — Stephenson County Medical Society — Freeport — Evening

February 17 — DuPage Medical Society — Elmhurst Community Hospital, Elmhurst, 6:30 P. M. — Paul S. Rhoads, M.D., "The Virus Pneumonias"

February 18 — Marion County Medical Society

— St. Mary's Hospital, Centralia, 8:00 P. M.

February 18 — Livingston County Medical Society — Pontiac — Isaac A. Abt, Pediatrics subject

February 19 — Will-Grundy County Medical Society, Noon, Louis Joliet Hotel, Joliet

February 25 — Henry County Medical Society — Kewanee, Dinner 6:00 P. M.

February 26 — Will-Grundy County Medical Society — Noon, Louis Joliet Hotel, Joliet

March 5 — Will-Grundy County Medical Society — same as above

March 9 — Kankakee County Medical Society — Noon, Kankakee

March 12 — Jersey-Green County Medical Society — Carrollton, Evening

MARRIAGES

Glenn Clarence Wolf, Naperville, Ill., to Miss Marianne Simonson of Dayton, Ohio, in Chicago, September 30.

Francis X. Marino, Springfield, Ill., to Miss Margery Bond in New Orleans, August 17.

John B. Birch, Maywood, Ill., to Miss Gladys Risley of Onarga at Watseka in September.

DEATHS

Charles L. Abner, Chicago; Bennett Medical College, 1913. Practicing physician on Chicago's south side for 40 years. Died January 10, 1943 at the age of 75 years.

James S. Cleland, Chicago; Missouri Medical College, St. Louis, 1898; aged 64; died, November 15, in Veterans Administration Facility, Hines, of coronary heart disease and angina pectoris.

Charles P. Cooper, Chicago; Bennett Medical College, 1906. Had practiced medicine in Chicago for 37 years. Died following a stroke on January 12, 1943 at the age of 60.

Lambros G. Diamessis, Chicago; National University of Athens School of Medicine, 1904. Practiced medicine in Chicago for 40 years. Died January 14, 1943 at the age of 64.

Joseph Francis Duane, Peoria; Rush Medical College, 1903. Graduate work in Vienna. Ophthamologist in Peoria for many years. Died January 21, 1943 at the age of 62.

Herbert H. Frothingham, formerly of Chicago; Northwestern University Medical School, 1885. Former member of faculty of Northwestern University Medical School. Died January 7, 1943 in Long Beach, California at the age of 80 years.

John Nelson Goltra, Evanston; College of Physicians and Surgeons, New York, 1887. Had practiced at Buffalo, N. Y. and served in the Spanish-American War. Author of several books on medicine. Died January 15, 1943, aged 83 years.

Thomas Edward Griffiths, Chicago; Chicago Medical School, 1921. Head of the medical department of the 31st Street plant of Armour & Co. Member of the Scottish Highlanders in World War No. 1. Died January 6, 1943, aged 57 years.

Urban B. Harris, Evanston; University of Illinois College of Medicine, 1914. Member of the staff of Martha Washington Hospital. Captain in World War 1. Died January 24, 1943 at the age of 51.

Maurice Kahn, Chicago; Baltimore University Medical School, 1903. Had practiced medicine in Chicago for many years. Died December 8, 1943 at the age of 66 years.

Elmer Osborn Laughlin, Paris; Medical College of Ohio, Cincinnati, 1893. Physician and surgeon for Paris for 49 years. Surgeon for the Pennsylvania Railroad for 35 years. Charter member of the Midland Authors Society, B. P. O. E. No. 812, Paris Lodge No. 268, A. F. & A. M. Modern Woodman, Edgar County Medical Society and Aesculapian Society of Wabash County. He died December 14, 1942 at the age of 75.

Ermin A. Paulter, Red Bud; St. Louis University School of Medicine, 1926. Died of a heart ailment January 3, 1943 at the age of 41 years.

Col. P. J. Sarma, Chicago; Hahnemann Medical College, 1916; graduate work in Vienna and Paris. Was associate professor of surgery at the University of Illinois College of Medicine and attending surgeon at Ravenswood and Cook County Hospitals. During World War 1 he was a surgeon in the medical corps and remained a reserve officer until called to active duty in 1941. Was chief of the surgical section at Camp Barkley, Abilene, Texas. Died of a heart attack January 21, 1943 at the age of 49 years.

Charles E. Scharf, Chicago; Chicago College of Medicine and Surgery, 1913. One of the founders of the Belmont Hospital 15 years ago and president of the institution when he died. Died January 25, 1943 at the age of 58 years.

Lt. Col. Joseph Lewis Stettauer, Chicago; University of Illinois College of Physicians and Surgeons, 1901. Intern Rotunda Hospital, Dublin, Ireland; member of staffs of St. Luke's and Jackson Park Hospitals. He joined the Illinois National Guard 23 years ago as captain of the 108th medical regiment of the 33rd division. For a time was divisional medical inspector at Camp Forrest, Tennessee. At the time of death was commandant of the aviation cadet board at Winston-Salem, N. C. Died at St. Luke's Hospital January 3, 1943 while home on leave. Aged 60 years.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

FEBRUARY

This month with fangs of winter we compete,
That gnaw into our vitals and defile,
They tear huge hunks from dispositions sweet
And what remains is vinegar and bile.
The days grow longer but the cold grows worse,
With aching backs we shovel snow and coal,
The falling snow-flakes make us writhe and curse,
The ground-hog then appears to vex our soul.
With Washington and Lincoln birthdays here
We have two holidays we cannot use,
Come these in June we'd golf and swim and cheer —
No fault of theirs of course, they could not choose.
The month is short, they did omit some days —
They could omit the rest and win my praise.

ME AND ROBINSON CRUSOE

I'm stranded on a dreary, lonesome island,
An island that is called Restricted-Diet;
A clever dietitian
Put me in this position,
And scared me into willingness to try it.

On every side I view the boundless sea,
A sea that bears the name of Must-Not-Take;
'Tis filled with foods desirous
And drinks that might inspire us,
Which I was weak enough to quite forsake.

The city where I dwell in Self-Denial,
Made up of good sea-faring folks like me,
Who scan the sea with sadness,
Out-lying isles with madness,
And sadly dream of days they sent at sea.

This island is an awful place to live,
There's nothing one desires that it provides,
And all the sea's attraction
But breeds dissatisfaction,
When hunger pains are gnawing one's insides.

I feel my courage slowly oozing out,
This cannot last forever, you'll agree,
Some day in desperation
I'll leave this desolation,
And boldly plunge myself into the sea.

WORKERS

When you work upon committees
For societies or cities,
You will find a very few do all the work,
While the others do the talking,
And are critical or balking,
And the vast majority just loaf or shirk.

So I hand a wreath of laurel
To the man who does not quarrel
With the job he finds assigned to him to do,
Who will work on his committee
with no long and loud self pity —
When he says he'll do a thing he sees it through.

Professor Paresis asserts that a fall of snow is much like a state of inebriation — something very pleasant while coming but something awful while going.

IMPROVED PERIPHERAL VASCULAR TREATMENT INTRODUCED BY SEARLE

A distinct advance in the therapy of peripheral vascular disease has been made with the introduction to the medical profession of Tetrathione (Searle).

Developed in the Research Laboratories of G. D. Searle & Co., Tetrathione (Searle) has received five years of intensive clinical investigation by Theis and others, demonstrating its exceptional value in the management of certain peripheral circulatory diseases characterized by deficient oxygenation of the blood and tissues.

An extensive bibliography reports the results of the administration of more than 8000 injections of Tetrathione (Searle). Most prominent among the indications for Tetrathions (Searle) are Buerger's disease (thrombangiitis oblitereans), Raynaud's disease and scleroderma.

The action of Tetrathione (Searle) is that of increasing the oxygen capacity and oxygen content of the blood. This inorganic sulfur compound (Sodium Tetrathionate) has the advantage over sodium thiosulphate in that it has a greater and more prolonged effect.

In addition to thromboangiitis obliterans (Buerger's disease) and Raynaud's disease, Tetrathione (Searle) is indicated in peripheral circulatory disorders such as essential hypertension and metallic poisoning.

It is supplied in powdered form in 0.6 Gm. ampuls — packages of 6, 25, and 100. A descriptive brochure is available on request.

There is eighty times as much tuberculosis found in discharged sanatorium patients as in the unselected population, it is estimated, and thirty times more tuberculosis in the contact group than the general population. L. M. Morse, M.D., Wis. Med. Jour., Mar., 1941.

In the past a frequent complaint from mothers was the expense incurred when the large bottle of antiricketic was accidentally upset.



OLEUM PERCOMORPHUM

Even if the bottle of Oleum Percomorphum is accidentally tipped over, there is no loss of precious oil nor damage to clothing and furnishings. The unique Mead's Vacap-Dropper* is a tight seal which remains attached to the bottle, even while the antiricketic is being measured out. Mead's Vacap-Dropper offers these extra advantages also, at no increase in price:

Unbreakable

Mead's Vacap-Dropper will not break even when bottle is tipped over or dropped. No glass dropper to become rough or serrated.

No "messiness"

Mead's Vacap-Dropper protects against dust and rancidity. (Rancidity reduces vitamin potency.) Surface of oil need never be exposed to light and dust. This dropper cannot roll about and collect bacteria.

Accurate

This unique device, after the patient becomes accustomed to using it, delivers drops of uniform size.

No deterioration

Made of bakelite, Mead's Vacap-Dropper is impervious to oil. No chance of oil rising into rubber bulb, as with ordinary droppers, and deteriorating both oil and rubber. No glass or bulb to become separated while in use.

EXIGENCY OF WAR:

Oleum Percomorphum 50% is now known as Oleum Percomorphum 50% With Viosterol. The potency remains the same; namely, 60,000 vitamin A units and 8,500 vitamin D units per gram. It consists of the liver oils of percomorphfishes, viosterol, and fish liver oils, a source of vitamins A and D in which not less than 50% of the vitamin content is derived from the liver oils of percomorph fishes (principally Xiphias gladius, Pneumatophorus diego, Thunnus thynnus, Stereolepis gigas, and closely allied species).

**Supplied only on the 50 c.c. size; the 10 c.c. size is still supplied with the ordinary type of dropper.*

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Book Reviews

Ophthalmology and Otolaryngology: Military Surgical Manuals, Volume II. Edited by Harry S. Gradle, M.D., and Norris P. Mosher, Chairman. Pp. 331, with 124 illustrations. Cloth. Price, $4.00. Philadelphia: W. B. Saunders Company, 1942.

This is another of the Military Surgical Manuals of the National Research Council, and is indeed a valuable contribution.

This book is not intended for the experienced ophthalmologist or otolaryngologist, but rather for those physicians who, though experienced in the general practice of medicine, are confronted on the field of battle with injuries to the eye, ear, nose and throat.

It is brief but comprehensive and avoids debatable points. As in previous volumes, the "do's and don's" are a valuable asset.

The book is also a valuable one for those in the practice of ophthalmology and otolaryngology as a quick and authoritative reference.

F. C. W.

Fractures. By Paul B. Magnuson, M.D., F.A.C.S., J. B. Lippincott, Philadelphia.

This is the fourth edition of a very popular book on fractures which appears at a most opportune time — while the United States is at war. The author discusses in detail the transportation and early treatment of compound fractures, and has added many things which did not appear in previous editions in keeping with recent advances in this highly important subject.

On page one the author gives some fracture maxims which are among the highly important features of the book, beginning with "Splint 'em where they lie," "Shock is caused by fracture and is made worse by handling," and ending with the important statement, "A fracture properly reduced and held in reduction is painless." In these days when physicians see so many types of fractures, and see improper handling of the cases before they reach professional hands it is unfortunate that these important fundamentals in fracture care are not widely publicized so that every layman will know the dangers of improper handling of a patient.

A wealth of valuable information is contained in this volume which is not nearly as large as many which have recently appeared on this subject. The first part of the book contains general information on the subject of fractures which is interesting reading to all who are called upon to treat fractures. A brief discussion appears on the pathology and repair of fractures, anatomical mechanism and physical equipment in the reduction of fractures, and equipment which should be available for their care.

The minimum requirements in the care of fractures are given much consideration. The principles recommended are those which can be generally carried out almost anywhere without an unusual supply of accessories. The author recommends that each fracture be treated as an individual case, and he does not recommend unnecessary operative procedures in those types of fractures which should give good functional

(Continued on page 28)

WHO ARE THE MEN BEHIND THE "FACTS"

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FACTS quoted by PHILIP MORRIS are based on studies conducted by recognized authorities whose work is known to the profession... whose findings have been published in leading medical journals.*

Their tests, not only in the laboratory, but in the clinic as well, have conclusively *proved* PHILIP MORRIS Cigarettes to be *definitely and measurably less irritating* to the sensitive tissues of the nose and throat . . . an advantage due to a difference in the *manufacture* of PHILIP MORRIS.

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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.

and cosmetic results by simpler methods of treatment.

The book is well illustrated with many fine cuts which will appeal to the busy physician who desires authentic information on a specific subject on short notice. We heartily recommend the book as a valuable addition to the library of all physicians who are interested in the care of fractures, especially at this time when more men are doing this type of work than in previous years.

The treatment of wounds, especially those received in cases of compound fractures, and the use of the sulfonamides along with debridement, and the treatment of shock, add materially to the value of this book.

Nasal Medication. A Practical Guide. Noah D. Fabricant, M.D. The Williams & Wilkins Company, Baltimore, Maryland. Price $2.50.

In this volume, which is compact and readable, the author aims to orient the general practitioner, pediatrician, and the specialist with nasal medication.

He does not go into extensive detail but treats the subject in rather a general way.

The first chapters are confined to a brief description of the anatomy and physiology of the nose and the nasal sinuses. The subsequent chapters contain a discussion of the various drugs used in the treatment of the different diseases of the nose and sinuses.

Laying great stress on the chemical reaction of nasal secretion in health and disease and on the proper reaction of the medicine where used in nasal treatment.

This book is especially valuable as a quick reference for the busy doctor.

F. C. W.

Manual of Dermatology. Military Medical Manuals. Issued under the auspices of the Committee on Medicine of the Division of Medical Sciences of the National Research Council by Donald M. Pillsbury, M.D.; Marion B. Sulzburger, M.D.; Clarence S. Livingood, M.D. 421 pages with 109 illustrations. Philadelphia and London: W. B. Saunders Company, 1942. Price $2.00.

This is another of the important Military Medical Manuals which are being produced quite frequently at this time. The principal purpose is to furnish the medical departments of the Army and Navy with compact and authentic information in the field of military medicine. A foreword and approval of the volume appears under the signatures of the Surgeons General of the United States Army and Navy, both of whom see a great usefulness in the manual, especially for those military and naval medical officers who are on active duty.

In this pocket manual of Dermatology, the authors have endeavored to give information on the many common dermatoses which are seen in warfare, realizing the fact that approximately 10% of all admissions on sick lists are produced by skin diseases, and a similar percentage of days lost are from these conditions. The rare types of dermatoses are not discussed, and only those tried methods of treatment are recommended.

The physicians serving in civilian capacities are fortunate indeed, in being able to purchase this inexpensive manual which will give a wealth of information on an important yet frequently neglected subject which is replete with information on the subject of therapy. The formulas for the well tried and common types of ointments, lotions, powders and other forms of therapy generally used in the types of skin lesions discussed, are all given.

Manual of Standard Practice of Plastic and Maxillo Facial Surgery. Prepared and edited by the Subcommittee on Plastic and Maxillofacial Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council, and Representatives of the Medical Department, U. S. Army. Robert H. Ivy, Chairman, John S. Davis, Joseph D. Eby, P. E. Lowery, Ferris Smith, Brig. Gen. Leigh C. Fairbank, Medical Department, U. S. Army, Lt. Col. Roy A. Stout, Dental Corps, U. S. Army. With contributions by John Scudder and Frederick P. Haugen. W. B. Saunders Company, Philadelphia and London, 1942. Foreward by Surgeon General, U. S. Army, James C. Magee, Major General; also by Surgeon General U. S. Navy, Ross T. McIntire, Rear Admiral.

(Continued on page 30)

NOW!

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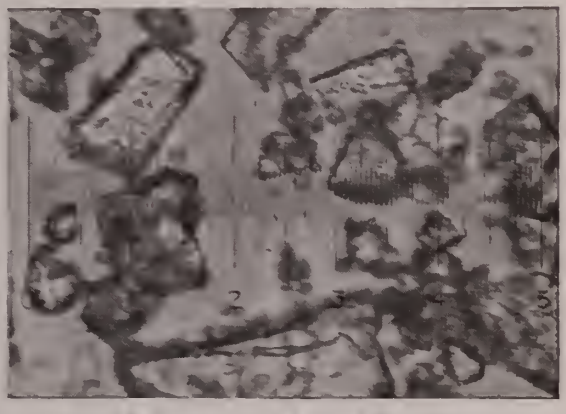
PAREDRINE-SULFATHIAZOLE SUSPENSION combines, for the first time, in a single stable preparation, the effective vasoconstriction of 'Paredrine'* and the potent bacteriostatic action of sulfathiazole.

This preparation owes its remarkable effectiveness largely to the newly-developed 'Micraform'* crystals—*approximately 1/1000 the mass of ordinary sulfathiazole crystals.* These crystals—pictured at lower right—form a suspension which: **(1) approximates a solution in its ease of application... (2) deposits the sulfathiazole uniformly... (3) passes freely through the ostia of the sinuses.**

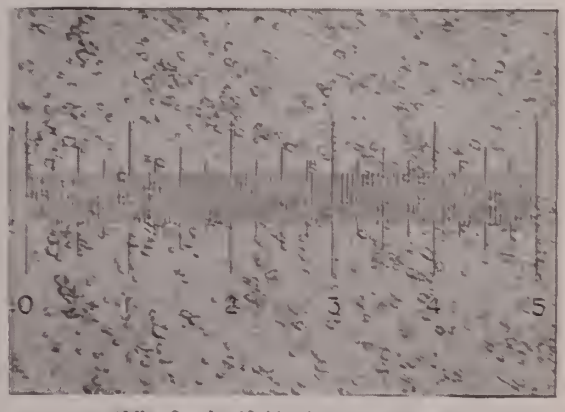
Therefore, Paredrine-Sulfathiazole Suspension represents a revolutionary development in the treatment of nasal and sinus infections, particularly those secondary to the common cold.

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COMPARATIVE PHOTOMICROGRAPHS OF ORDINARY CRYSTALS AND 'MICRAFORM' CRYSTALS



Ordinary sulfathiazole crystals (450x)
Each small division of the scale = 2 microns



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Paredrine-Sulfathiazole Suspension

SMITH, KLINE & FRENCH LABORATORIES, PHILADELPHIA, PA.

This is a truly excellent volume doubtless intended by the authors to be used by physicians in the military services. It is, however, indispensable to the general practitioner, and especially to the surgeon. It is rich in essentials. Nonessentials are conspicuous by their absence.

It may be likened to a machine which is so perfectly adjusted that no lost motion is apparent.

The "don'ts" which are unusual in a medical text, are a valuable addition, and its many illustrations are near perfection.

F. C. W.

Advances in Internal Medicine. Edited by J. Murray Steele. Volume I. Interscience Publishers, Inc., 215 Fourth Avenue, New York. 1942. Price $4.50.

The editor states that this volume is presented as a result of the current opinion of many physicians that there should be published occasionally, a summary of some of the advances in medicine. Realizing that the present era has produced the major developments in medicine for the past century, and that additions to this wealth of knowledge are being made so rapidly, it seems quite logical to believe (with this fact in mind) that additional volumes on this subject should be forthcoming at fairly close intervals during the next few years.

The use of the Miller-Abbott Tube is well described in the first part of the book, giving information on the construction of the tube, technique of passing intestinal tubes, the diagnostic uses as well as the therapeutic uses of this important accessory.

Then in turn such important subjects as the use of insulin and protamine insulin in the treatment of diabetes, sympathetic nervous control of the peripheral vascular system, actions and indications for the sulfonamides, choice of the drug to be used and its indications, are well described in a most interesting manner.

Infections of the urinary tract are given much consideration as to the nature and therapy of the infections and the relationship of the specific etiological agent to the infections of the urinary tract. A review of the humoral pathogenesis and clinical treatment of hypertension are given much consideration. The subject of nephrosis and its establishment as an entity are well discussed, along with the medical and surgical treatment of hypertension. All this material should be of interest to the reader desiring authoritative information on these important subjects.

An unusually interesting section on riboflavin deficiency with a very extensive bibliography is the last subject to be found. The student or physician interested in the recent developments in the field of medicine should be interested in this book, and will no doubt be interested in the promised volumes to come later.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

Fundamentals of Immunology by William C. Boyd, Ph.D., Associate Professor of Biochemistry, Boston University, School of Medicine; Associate Member, Evans Memorial, Massachusetts Memorial Hospitals, Boston, Mass. With 45 Illustrations. Interscience Publishers, Inc. 1943. New York, N. Y. Price $5.50.

Autonomic Regulations. Their Significance for Physiology, Psychology and Neuropsychiatry. By Ernst Gellhorn, M.D., Ph.D., Professor of Physiology, College of Medicine, University of Illinois. With 80 Illustrations and Frontispiece. Interscience Publishers, Inc. 1943. New York, N. Y. Price $5.50.

The 1942 Year Book of Industrial and Orthopedic Surgery. Edited by Charles F. Painter, M.D., Orthopedic Surgeon to the Massachusetts Women's Hospital and Beth Israel Hospital, Boston. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago. Price $3.00.

(Continued on page 32)

Protection *plus* Comfort



IN prescribing a vaginal diaphragm, the physician must necessarily give thought to the comfort of the patient. A diaphragm which does not fully protect the patient against discomfort as well as fertilization invites discontinuance of use.

The Ramses Vaginal Diaphragm provides complete comfort and protection to the patient. Pure gum rubber, treated by an exclusive process gives velvet smoothness and long life to the dome. The coil spring is cushioned in soft rubber tubing. This is a patented feature found only in the Ramses Vaginal Diaphragm, and is designed to protect the patient against any possibility of discomfort.

Ramses Vaginal Jelly meets the requirements of the critical clinician. It is stainless, will not melt or run at body temperature, and provides definite spermatocidal power. Because it is non-irritating and non-toxic, it is suitable for continuous use.

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A B

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A Spencer Support gently lifts sagging organs, while allowing freedom at upper abdomen. This, plus posture improvement, aids digestion, elimination and improves circulation of blood through abdomen. Appetite usually improves. The patient's improved posture induces better breathing, a feeling of well-being and a happier outlook.

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The Answer is Your Nerves. By Arnold S. Jackson, M.D., F.A.C.S., With a Chapter by The Rev. Edwin O. Kennedy. Illustrations by Evelyn Lipman. Printed at Madison, Wisconsin, 1942. Price $2.00.

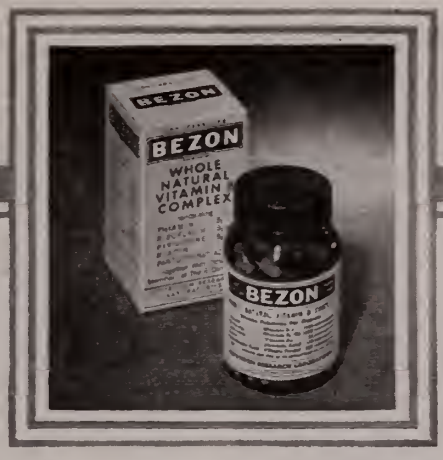
Mental Illness: A Guide for the Family. By Edith M. Stern with the collaboration of Samuel W. Hamilton, M.D. New York. The Commonwealth Fund. 1942. Price $1.00.

Manual of Oxygen Therapy Techniques. (including Carbon Dioxide, Helium and Water Vapor). By Albert H. Andrews, Jr., M.D., Director, Oxygen Therapy Department and Assistant Attending Otolaryngologist, St. Luke's Hospital, Chicago; Instructor in Laryngology, Rhyinology and Otology (Bronchoesophagology), University of Illinois College of Medicine; Associate Attending Bronchoesophagologist, Children's Memorial Hospital, Chicago; Former Research Instructor, Department of Physiology and Pharmacology, Northwestern University Medical School. The Year Book Publishers, Inc. 304 South Dearborn Street, Chicago. Price $1.75.

The Antigonadtropic Factor With Consideration of the Antihormone Problem. By Bernard Zondek and Felix Sulman, Hebrew University, Jerusalem. The Williams & Wilkins Company, 1942, Baltimore. Price $3.00.

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Orthopedic Subjects. Prepared and Edited by the Subcommittee on Orthopedic Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. George E. Bennett, Chairman. W. B. Saunders Company, Philadelphia and London, 1942. Price



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SAYS ARMY NEUROPSYCHIATRISTS NEED MORE TIME FOR DIAGNOSIS

Physician Believes Not Over 25 Per Cent Of Pyschiatric Selectees Are Detected At Induction Station Examination

Estimating that 5 to 10 per cent of men in the age group liable for military service are neuropsychiatrically unfit for such service, David J. Flicker, M.D., Captain, Medical Corps, United States Army, Camp Blanding, Fla., declares in the current issue of *War Medicine* that "I feel that not over 25 per cent of those selectees who will break down with psychiatric disorders are being apprehended." *War Medicine* is published by the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council.

Captain Flicker believes that neuropsychiatrists are not permitted to spend enough time with each selectee to function efficiently.

"At Camp Blanding," he says, "only two trained neuropsychiatrists are attached to the station complement. They must handle, with such untrained and partly trained personnel as may be available, all the neuropsychiatric work of the station hospital with its two thousand beds, of which about two hundred are devoted to neuropsychiatric patients alone, in addition to the neuropsychiatric work of the induction board. This is probably one of the most active induction boards in the country and from its opening to the time of this writing has examined about 17,000 men. The greater part of these 17,000 have never been seen by either trained neuropsychiatrist, as can be readily surmised. It is my desire to express definite agreement with . . . those . . . authors who have stated the belief that the work of even a trained neuropsychiatrist becomes largely 'hunch,' 'intuition' and 'guess' when his time is too limited. It is little wonder that laymen regard him as degenerated to the same scientific level as a diviner who finds water with a forked wand, a phrenologist, an astrologer or a necromancer. It is ridiculous to assume that in two or three minutes it is possible to detect any but the most gross nervous or mental disorders. . . ."

The Captain says that it is impossible even

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NEUROPSYCHIATRISTS (Continued)

to guess how many persons with various mental and nervous conditions, such as epilepsy and syphilis of the central nervous system have slipped by various induction boards.

"A conservative estimate," he says, "would still be in the tens of thousands, but it is not presumption that many millions of dollars will be spent by American taxpayers for compensation and hospitalization for conditions existing at the time of induction which will not be apprehended until after they become apparent 'line of duty' disease. All that can be hoped for under the present setup is that the induction neuropsychiatrist will detect some of the potential neuropsychiatric casualties. . . ."

He says that at Camp Blanding a neuropsychiatrist is a member of the induction team and may spend on the average of two to three minutes per man after which he must pass the man along to the examiner of the next system or be a "bottleneck" in the line. An inductee reaches the neuropsychiatrist devoid of all historical records and in the allotted two or three minutes the man is passed along either as normal or as having a neuropsychiatric disorder.

As for correcting this situation Captain Blanding says that "Perhaps for the future some suggestion may be offered. First, something should be done in the matter of obtaining a psychiatric history. . . . The local selective service boards could certainly do this. They could obtain school records from boards of education; abstracts of hospital records can and should be made available; court records could be appended to the inductees' blanks; statements from various employers could be made in questionable cases, and social service records may be used if a community provides for this service. . . .

"Second, it is hoped that once the tremendous pressure of speed in the present stage of mobilization has passed it should be possible for a neuropsychiatrist to spend more time in arriving at the important decision of who is fit to be a soldier.

"Third, with more cooperation it should be possible for many state hospitals and institutions

(Continued on page 38)

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NEUROPSYCHIATRISTS (Continued)

to make available some of their trained psychiatrists to aid in induction. . . .

"Fourth . . . in no one day should a psychiatrist examine more than 50 men and . . . the minimum of about five minutes per man, while markedly inadequate, should never be lowered. . . ."

In the same issue of *War Medicine,* however, C. L. Wittson, Ph.D., Lieutenant, M. C., United States Naval Reserve; H. I. Harris, M.D., Lieutenant, M. C., United States Naval Reserve; W. A. Hunt, M.D., Lieutenant, United States Naval Reserve, and Philip Solomon, M.D., Lieutenant, M. C., United States Naval Reserve, Newport, R. I., present the record of neuropsychiatric examinations at the United States Naval Training Station at Newport which led them to the belief that the three minute interview functions satisfactorily.

"About 90 per cent of our rejections," the four men say, "are being detected, or 'spotted,' during the reexamination immediately after a recruit has arrived at the station. The remaining 10 per cent represent recruits who are not detected during the examination but break down during the training period and are referred to the neuropsychiatric service from other sources. From this it would appear that, while the three minute interview is not a perfect detection instrument, it does function satisfactorily. . . ."

They point out, however, that it should be remembered that two preliminary selection processes act to sort out some of the unfit, the first being the voluntary enlistment system used by

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the Navy wherein some recruits with known defects realize their incapacity and do not attempt to enlist and the second, the preliminary examination given each recruit at his original recruiting station before he is accepted and sent to a training station.

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NEW METHOD PROVIDES PAINLESS AND COMFORTABLE CHILDBIRTH

The Technic, Developed By Two Physicians At A Staten Island, N. Y., Hospital, Is Safe For Both Mother And Child

A new method which provides comfortable and painless childbirth that is safe for mother and child is reported in the January 23 issue of *The Journal of the American Medical Association* by Robert A. Hingson, M.D., and Waldo B. Edwards, M.D., Staten Island, N. Y.

The technic involves the continuous injection, by means of an apparatus devised by the two physicians, of a solution of metycaine, a cocaine substitute, into that portion of the lower tip of the spine where are located the nerves which transmit the pain impulses from the lower portion of the abdomen. The method is called "continuous caudal analgesia" by the two men. Administration is started when the patient is in labor and in distress. Additional injections are made every thirty to forty minutes, according to individual requirements, during the entire course of labor.

Drs. Hingson and Edwards warn, however, that "We consider this method of analgesia to be a specialized procedure which requires special training in order to attain uniform satisfactory results." They also say that it should be used only in hospitals and that there are certain types of cases in which its use is contraindicated.

"Since 1847," the two physicians point out, "when Sir James Y. Simpson introduced ether in obstetrics, there has been a continuous search for a perfect method. Many different agents, used either alone or in combinations, have been described for this purpose. Not one has been found that completely meets the postulated criteria without at the same time altering the normal mechanism of labor. . . ."

They explain that their solution of the problem of the relief of pain during labor and delivery has been to use a continuous regional nerve block of those pathways which transmit the pain impulses and at the same time not to interfere with consciousness and the motor nerve fibres to the womb and the nerves to the accessory mus-

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CHILDBIRTH (Continued)

cles which have a part in the voluntary explusion of the baby.

The new technic has been used by the two physicians in 589 cases in which "There were 586 live births with no maternal complications or deaths. The average length of time the analgesia was continued was six and one-half hours. The shortest was thirty-five minutes and the longest was thirty-three hours. . . ."

In the same issue of *The Journal* is a preliminary report on the technic by Thomas G. Gready Jr., M.D., and H. Close Hesseltine, M.D., Chicago, based on their experience with 20 cases. They conclude that "It is our belief that in carefully supervised and selected cases [the method] is a valuable addition to the field of obstetric analgesia and anesthesia and our work with it is continuing."

The importance of this contribution to obstetrics is further emphasized in the lead editorial in the same issue of *The Journal* which says: "The method, which is a natural outgrowth of the development of local, spinal and caudal anesthesia, was first used in obstetrics in the U. S. Public Health Service Marine Hospital at Stapleton on Staten Island, New York, on Jan. 6, 1942. Since that time the method has been tried in some nineteen clinics associated with medical schools and well established hospitals . . . with but 3 instances in which infants died — these without reference to the method of analgesia that was employed. . . .

"The relief of pain in childbirth has been one of the long sought goals of the medical profession. In developing their technic Drs. Hingson and Edwards traveled frequently to leading institutions of medical education and to lying-in hospitals in order to train men working in these fields in the technic that they themselves had elaborated. The significance of the observation is such that the Editor of *The Journal of the American Medical Association* considered it desirable to assemble promptly the opinions of some of those who have had opportunity to test the method under controlled conditions in hospitals. The following is a statement by Dr. Norris W. Vaux, professor of obstetrics at Jefferson Medical College and obstetrician and gynecologist-in-chief at the Philadelphia Lying-In Hospital:

"Our experience at the Philadelphia Lying-In Hospital with continuous caudal analgesia since July has been highly satisfactory. It is a 100 per cent effective analgesia and is not dangerous if properly administered using the technic outlined by Drs. Hingson and Edwards. It needs constant supervision by some one trained in the technic. There are a few contraindications to its use. . . .

"Our time has been limited in the use of this method, but our results so far show that it is the best method yet devised for the relief of pain in labor.

"Another obstetrician who had opportunity to test the method for a considerable period is Dr. Francis R. Irving, associate professor of clinical obstetrics at Syracuse (N. Y.) University College of Medicine. He states:

"We have delivered 85 women since October 10 without failures. There is no question that it is perfect painless childbirth without deleterious effect on mother or child.

"Dr. John S. Lundy, head of the Department of Anesthesia in the Mayo Clinic, Rochester, Minn., says:

"We have used continuous caudal analgesia about fifty times and I think it is fine. It has also been used successfully in Brook General Hospital, Fort Sam Houston, Texas; Walter Reed Hospital, Washington, D. C., and many other places.

"The time since the introduction of this method has been exceedingly brief. Nevertheless the experience accumulated seems to be sufficient to warrant the belief that it constitutes a real advance in securing relief of pain for mothers during childbirth. . . .

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(Continued on page 44)



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CHILDBIRTH (Continued)

attained. The extension of this advance in medical and obstetric science to physicians and to prospective mothers places another burden on those agencies in the United States which are cooperating in extending graduate education to the medical profession."

WAR PRODUCTION BOARD ORDER AFFECTS VITAMIN CAPSULES

To conserve vitamin A supplies during wartime, W.P.B. order L-40 limits the content of capsules to 5,000 vitamin A units.

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Tuberculosis remains predominantly a disease of adults in their productive years and causes invalidism, loss of earning power, expense of hospitalization and treatment. A. C. Reid, Jour. Industrial Hyg. and Toxicology, Oct., 1940.

Pulmonary tuberculosis rarely develops in an individual after thirty-five if at that age the roentgenogram shows no evidence of the disease. In spite of this we should keep in mind the fact that the mortality rate from tuberculosis is highest in the older age groups. The highest rate for men is after age fifty; for women the rate is almost as high in the sixties as it is in the twenties, and highest of all in the seventies. Therefore, we should give more attention to the later years of the life line and not feel so self-satisfied when we roll up impressive clinic figures which, if analyzed, would show that the total was to a great extent made up of children. The oldsters will yield a greater percentage of tuberculosis for number examined than will the youngsters. These individuals are shy, however, and it requires more wile and persistence to lure them into the clinic's net. From "The Modern Attack on Tuberculosis" by Chadwick and Pope, published by The Commonwealth Fund, New York.

PUBLIC HEALTH UNDER HITLER

According to *Curieux Marcellin* of Nov. 6, 1942 the German authorities have requisitioned the Beaujon, Lariboisière and La Pitié hospitals in Paris, comprising 3,280 beds. Owing to the creation of temporary hospitals, Paris patients still dispose of 36,800 beds, which is little for a population estimated at 4,200,000. Since the beginning of war, no important epidemic has broken out with the exception of smallpox at the beginning of 1942, which was checked by intensive vaccination. Cases of scabies have increased from 1 to 70 per cent. Tuberculosis has doubled among 6 to 8 year old children and adolescents of 18 to 25. No general mortality figures have been published, but the annual rate of deaths at the Cochin Hospital has increased from 1,200 to 1,400. People go to hospitals only in the last extremity because food cards must be deposited and interminable formalities are required to get them back on leaving the hospital. British patients remaining in Paris are looked after at the Val de Grace and Jewish patients at the Rothschild foundation. All Paris hospitals suffer from enormous transport difficulties. There are hardly any ambulances. Patients are brought to the hospital with the help of the police first aid. For the return journey patients are grouped in the same ambulance, which makes a round trip like a motor bus.

Reggeli Ujsag, Novi Sad, of Nov. 12, 1942 states that the health statistics of Budapest children are deplorable. Of 100,000 children 55,000 are suffering from nervous complaints — that is, ten times as many as are suffering from consumption. It has been possible to reduce the number of cases of contagious disease, but the number of neurotic children has increased fourfold over the same period.—J.A.M.A.

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PHYSICIANS NEEDED AS REPLACEMENTS IN CIVILIAN SERVICE

Three hundred and five older physicians already have been voluntarily relocated to new areas as a part of their contribution to the war effort, but opportunities still remain for service in critical areas, boom towns and large industrial organizations in the replacement of physicians who have gone or who are willing to go into the armed forces, *The Journal of the American Medical Association* points out in its January 9 issue. *The Journal* says:

"Every physician may well take pride in the manner in which the medical profession has responded to the nation's call for service. More than one month ahead of schedule the medical profession voluntarily met the procurement objectives (quotas) of the Army and Navy. The response to calls for service continues; through the Procurement and Assignment Service carefully considered scientific planning of future procurement objectives has been formulated. The willingness of physicians to enlist before quotas were established greatly reduced the number of remaining physicians in some areas. Already three hundred and five older physicians have been voluntarily relocated to new areas as a part of their contribution to the war effort. Opportunities still remain for service in critical areas, boom towns and large industrial organizations in the replacement of those physicians who have gone or who are willing to go into the armed forces. Younger physicians, those under 37 years of age who are physically disqualified for the armed services, are urgently needed. Total war means total effort of every individual for victory. Physically disqualified physicians under 37 years of age may be most effective in the war effort by offering their services to the Procurement and Assignment Service. The state committee of the Procurement and Assignment Service in each state will discuss the arrangements and opportunities for this service with those who volunteer."

R. C. BREWSTER TO HEAD SALES FOR FREDERICK STEARNS

Appointment of Rafael C. Brewster as general sales manager in charge of sales and advertising for Frederick Stearns and Company is announced by Erwin F. Fauser, president. Stearns is one of the oldest and largest pharmaceutical manufacturers.

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The
ILLINOIS
Medical Journal

VOL. 83 NO. 3

March, 1943

In This Issue

Clinical Considerations of Shock

Blast Injuries of the Central Nervous System

(See page 29 for Table of Contents)

ANNUAL MEETING ILLINOIS STATE MEDICAL SOCIETY
PALMER HOUSE, CHICAGO, MAY 18, 19, 20, 1943

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY

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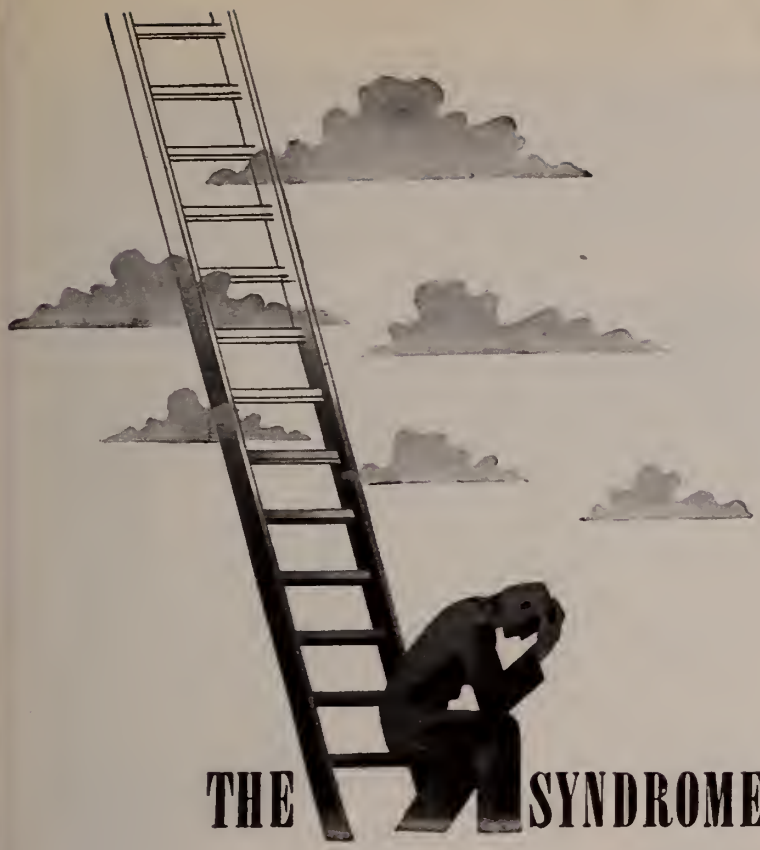
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LIVINGSTON, S. K.: Vitamin D and Fever Therapy in Chronic Arthritis, Arch. Physical Therapy, X-Ray, Radium, Vol. XVII, pp. 704-706, November (1936).

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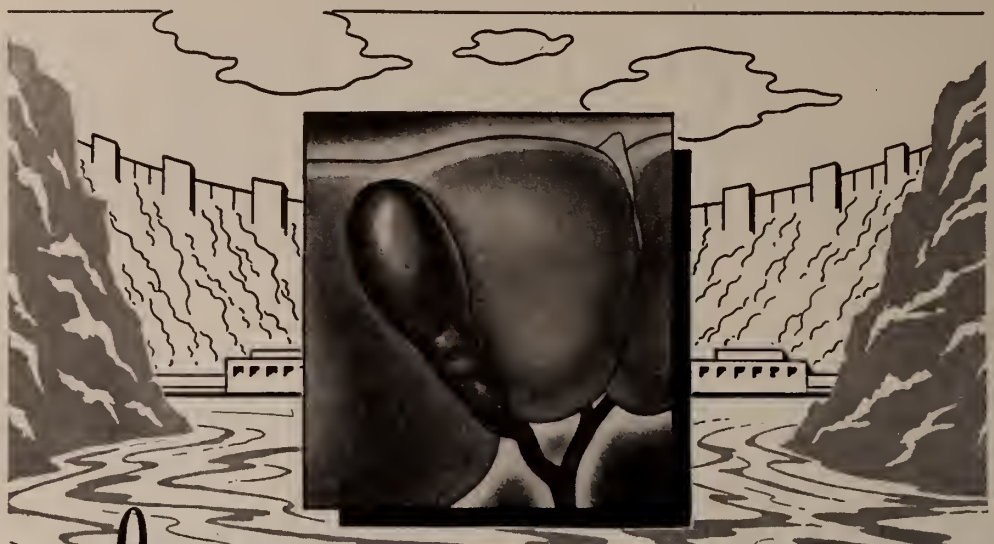
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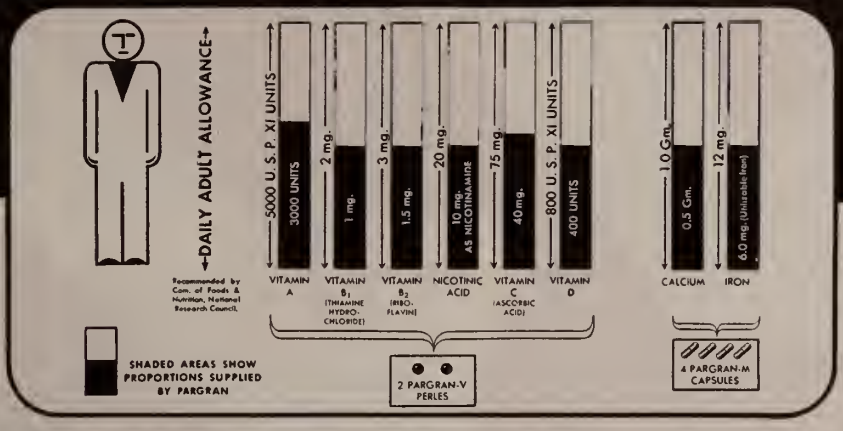
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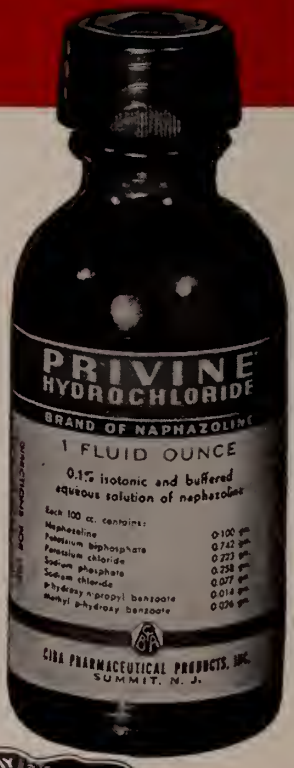
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[1] Fabricant, M.D.: "Nasal Medication," Williams and Wilkins Company, October, 1942.

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CIBA *Pharmaceutical Products, Inc.*

Vitamin Content
OF A FEW TYPICAL FOODS †

Milligrams per hundred grams (edible portion)

Food	Thiamine	Ribo-flavin	Nico-tinic Acid	Panto-thenic Acid	Pyri-doxine
Apples	0.025	0.050	0.500	0.050	
Bananas	0.040	0.080	0.600	0.070	
Bread: white (unfortified)	0.070	0.100	0.800	0.400	0.300
Bread: white (fortified)	0.280	0.140	1.500	0.400	0.300
Cabbage	0.060	0.050	0.290	0.225	0.290
Carrots	0.050	0.100	1.500	0.210	0.190
Cheese	0.030	0.500		0.350	
Cornmeal	0.200	0.150	1.500	0.800	
Eggs	0.250	0.400	0.050	2.700	
Beef	0.150	0.250	6.500	1.100	0.400
Pork (loin)	1.500	0.200	9.200	1.500	0.600
Poultry (light meat)	0.075	0.060	6.100	0.800	
Poultry (dark meat)	0.100	0.250	7.300	2.000	0.200
Calf's liver	0.400	3.200	20.000	5.200	
Pork liver	0.400	2.700	22.000	5.400	
Milk (whole, fluid)	0.045	0.200	0.070	0.300	0.200
Oatmeal	0.800	0.160	1.130	1.300	0.250
Oranges	0.070	0.030	0.220	0.070	
Peas (fresh)	0.300	0.190	0.750	0.600	
Peanuts	0.800	0.300	13.000	3.400	
Potatoes	0.125	0.060	1.160	0.400	0.160
Spinach	0.075	0.250	0.720	0.200	
Tomatoes	0.050	0.050	0.580	0.075	
Turnips	0.040	0.060		0.250	
Yeast (brewers' dry)	12.000	4.000	40.000	20.000	5.500
Whole wheat	0.450	0.120	5.900	1.300	0.460

†ELVEHJEM, C.A.: Handbook of Nutrition: The Water Soluble Vitamins, J.A.M.A. 120: 1388-1397 (Dec. 26) 1942.

Specially prepared from selected brewers' yeast, Wyeth's Elixir B-Plex is a palatable and potency-protected preparation of the richest natural source of the whole vitamin B complex. Each teaspoonful contains the water-soluble active constituents of 60 grains of high-grade brewers' yeast.

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Literature will be sent to physicians upon request.



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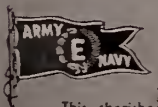
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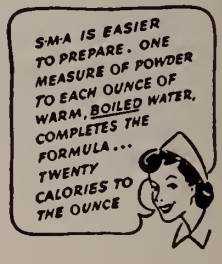
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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.

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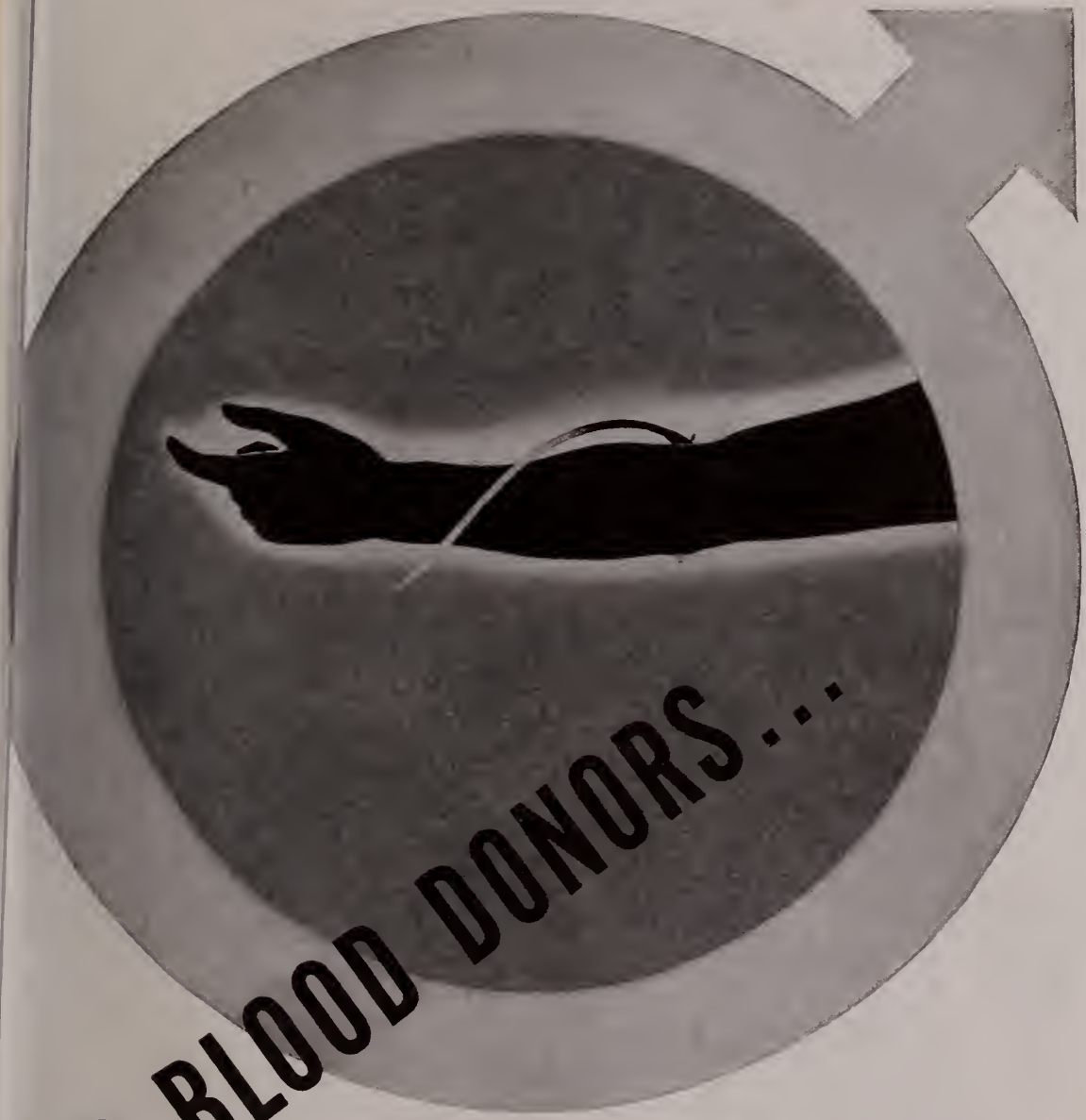
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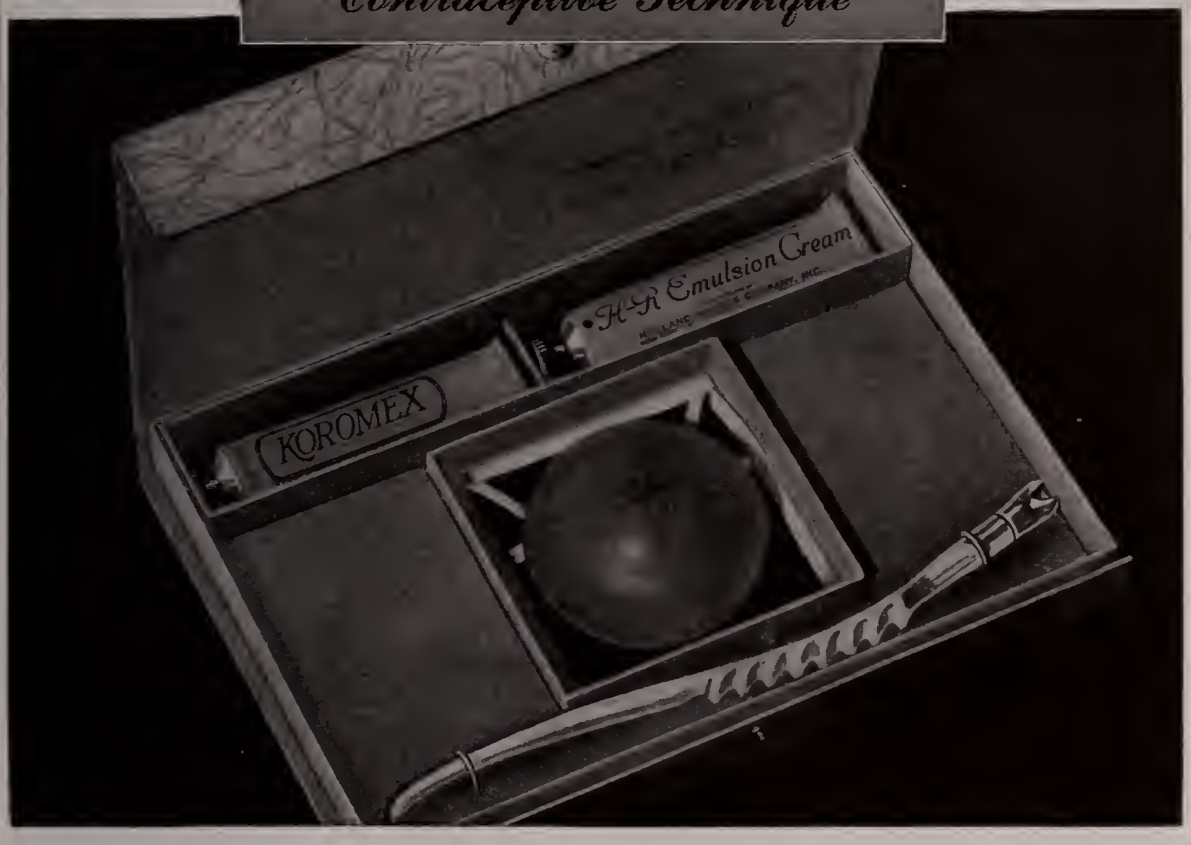
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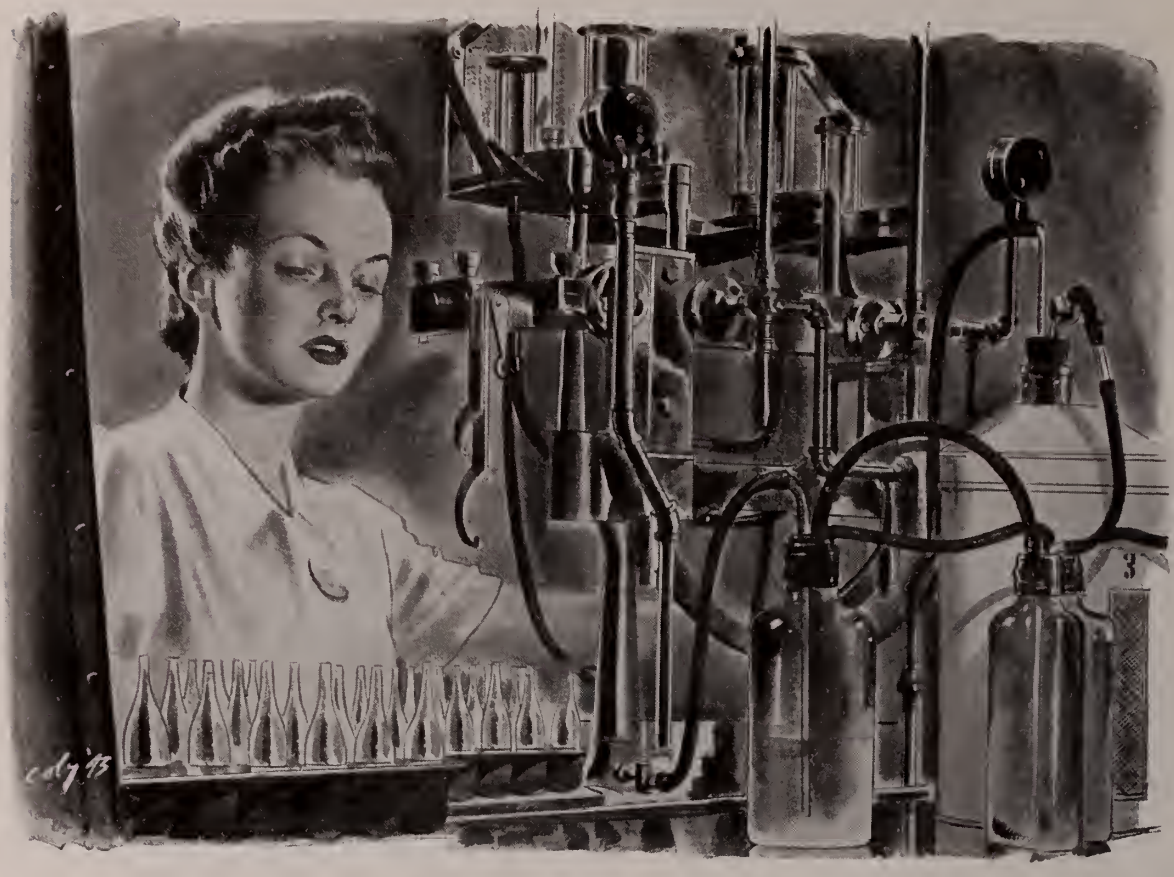
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March, 1943
VOL. 83, NO. 3

The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

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Editorials

A TRIBUTE TO THE MEDICAL PROFESSION

One of the best tributes to the medical profession which has come to our attention appeared as an editorial in the Grant County Herald, Lancaster, Wisconsin, under date of January 13, 1943. The editor, Mr. A. L. Sherman, in his "Remarks to a Young Friend Soon to Graduate in Medicine" presented first, a paragraph from the dedication to "Underwoods" by Robert Louis Stevenson:

"There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as rule. He is the flower (such as it is) of our civilization."

Then follow the complimentary statements to his young friend which we present in full:

"You are, my young friend, on the brink of your career. Whether or not your career will be great or ordinary depends very much on yourself. You will, I understand, finish medical school this year. After that Uncle Sam will want you for a while. This will be fine experience. Afterwards and in the course of time, you will come back to private life, "put up your shingle", and begin to practice somewhere — maybe in the old home town, which you like so much and where you know everybody and are liked just for yourself. This will be a help in some ways and in other ways a handicap — people will find it hard to realize that the little boy they saw at play so short a time ago, is now a grown man and a full-fledged physician. Nevertheless, they will have an affection for you because they knew you when you were young. People are like that.

"But wherever you go to practice you will be among human beings and will have a great opportunity for service. I hope you will be paid and well paid for what you do and I know you will try at all times to earn your money. Nevertheless, the rewards you receive — the great rewards — will not be monetary, but spiritual. The monument you will have in that far distant day when you leave this world will not be stone — it will be something in the memory of the many you served — the men and women, the families, the boys and girls — the people of your clientele. They will remember you for what you did for them and will be grateful to you.

"The reason, of course, is because of the peculiar and extraordinary relation which exists between the physician and his patient. You will see people as others rarely see them — when they are ill and despairing and need help desperately. You will not only be a healer of bodies — you will be a healer of souls. You will find the psychic side of your ministration of importance equal to the physical — ofttimes more so.

"In ministering to human beings you will find them with the bars down and without glamour — there will be none of the little ordinary masks

and pretenses we all wear to meet the world. Yet even though the fellow-man you serve may be helpless, even undignified, you will find something noble and lovable about him, something that transcends and is beyond any definition of the physical, something above the anatomical and that defies material analysis. He is a human being.

"If you did not feel this you would be no true physician and would be wasting your time as a doctor. Nor would you be much good to the world.

"I remember, many years ago, hearing a young medico tell me he was "out for the money." The money was there to be made and he was going to "get his." "I would cut a man's head off for five dollars, if he paid me for it," this young scoundrel was fond of declaiming. His crass attitude horrified me and I read with pleasure a few years later that he had been prosecuted and punished as a particularly venal sort of quack. If ever a man's rotten and cynical philosophy caught up with him, this was a striking example.

"In conclusion let me say that I have kicked around this world for over half a century. I have always studied people, remembering the advice of the sage that "the proper study of mankind is man." I can say with Stevenson, that no calling in the world has a higher opportunity for human service than the true physician. This is not to say that all the doctors one meets are true and great, or that many of them are anything else but mediocre. But when you meet a good one — a great humanist, as well as a great physician — how his light does shine!

"In far flight and at long last, I see you — in mind's eye. You will be wearing spectacles, because your once keen sight will be dim. Your shoulders will be rounded and your step slow, due to the advance of the years. Your hands

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will be gnarled — instead of white and supple, as they now are. And maybe your breath will be a bit wheezy. We will say nothing of wrinkles, of which you will doubtless have plenty. All these, and the wear inside, will be accolades of honor. You will have spent yourself in human service — which I can assure is the greatest way possible to spend a life. And you will be tranquil, happy — not caring much what happens to yourself — you will have done so much for others.

"So you're going to be a doctor?

"Well, go in and win, my boy — and may God bless and keep you!"

We do not know Editor Sherman, but it is quite obvious from his fine editorial, that he is a friend of ours, and that he has made keen observations over a considerable period of time of men who have devoted and consecrated their lives to relieving the sufferings of humanity.

He has shown in this editorial that although medicine is not the "bed of roses" many believe it to be, to enter this profession one must be endowed with those qualities which are essential to the accomplishment of the aims and purposes of a true and successful physician. He realizes no doubt, that to be successful in this calling, the young physician when he receives his diploma and license to practice, is just starting his studies. The successful man in medicine must constantly study, attend medical meetings and associate freely with his confreres throughout his professional career.

WAR TIME MEDICINE

With the large number of physicians now serving their country as officers in the medical corps of the armed forces, and with the limited number of doctors remaining at home to endeavor in every way possible to care for the civilian medical needs, it is quite obvious to all who know the facts that sacrifices on the part of both physician and patient are necessary. It may be impossible in many communities for people to get the same type of medical care as they have received in recent years.

The American people as well as those of nearly every other nation in the world today, are bound to undergo certain hardships. With most products now being rationed, and with the many calls for unusual types of medical services other than those primarily connected with the recognized physician-patient relationship, physicians are working longer hours and seeing more patients than under normal conditions.

In recent months many advertisements have appeared in papers and other periodicals throughout the country urging the civilian population to aid the doctors in every way possible. In many instances patients with chronic ailments are able to call at the physician's office instead of expecting him to make frequent house visits. Night calls can be greatly reduced, and the physician working long hours during the day should be permitted to get his much needed rest. No physician will object to making calls in acute or emergency conditions where a few hours delay might make a great difference in the chances for recovery, yet a large percentage of the usual night calls could have been made in the daytime.

Various plans have been adopted throughout the country to conserve the time and energy of the busy physician. In some instances physicians in turn are subject to night calls, giving others the opportunity to get undisturbed rest. Some papers publish the roll of physicians who may be called for night emergencies for the week. This matter his been discussed editorially in many papers throughout the country, showing that many civilians realize the necessity of conserving the time and energy of their physicians.

Among the many things which have come to the desk of the editor was a supplement to the February issue of the Connecticut State Medical Journal. This supplement was a card to be displayed in the office of the physician, in hospitals and in other places where it can be seen by civilians.

With the heading, "A Statement to the People of Connecticut" the following statement is made:

"It does not appear that there will be an immediate shortage of physicians in any community in this State but the entry into the military services of a large number of Connecticut physicians has created the necessity for a careful consideration of available medical service in order that it may be made to meet the demands of the care of our people. In order to aid the best and most efficient utilization of physicians' time The Con-

necticut State Medical Society makes these suggestions to the people of Connecticut.

"1. Call the physician to your home only when necessary. Go to his office when you can.

"2. Help your doctor to plan proper use of his time by calling him before nine o'clock in the morning whenever possible.

"3. Have an examination at the first sign of sickness. This helps to prevent long and serious illness.

"4. Some conditions require treatment in the hospital, but hospitals are crowded and if your physician is able to take care of you at home you are urged to follow his advice.

"5. When you call your doctor's office by telephone do not insist on speaking with him. Telephone conversations are often prolonged and take valuable time. Give your message to his nurse or office attendant.

"6. Every physician left in civilian practice is probably doing extra work in industry and public health and serving with draft boards. The demands upon his time are ever increasing. Help your doctor to conserve his health by avoiding unnecessary responsibilities for him and do not expect too many frills in your medical care these days. The population of our State has increased and more medical service has to be given by two-thirds as many physicians as we had a year ago but there are still enough to go around."

With the proper type of cooperation it seems quite obvious that the civilians of this state and the country as a whole, should receive adequate medical care in this emergency. It does, however, seem advisable for the medical profession to issue statements such as the one appearing in the above reprint from Connecticut urging the people to use good judgment in demanding the services of their physician under existing conditions. Most physicians realize the amount of time utilized each day in answering many telephone calls personally when the message could be left with an office assistant.

Again, with the shortage of nurses throughout the country, many people who previously have employed nurses for very minor ailments, can receive medical attention without a special nurse, and permit the more seriously ill to have this extra attention which they really need during the critical stages of illness.

As we have stated repeatedly in this column, it is our firm belief that the people of Illinois can receive adequate medical care during this present critical period even though the quality of service may not be entirely comparable with that of normal times. We believe that Illinois will continue to have enough physicians to give adequate medical care without having to ask licensed physicians from other states to come in for the remainder of the war period. We believe that physicians who have enjoyed the patronage of many grateful patients in smaller communities and who are not permitted to join the armed forces, should remain in their present fields and not move into larger communities most of which already have a sufficient number of physicians remaining to give needed medical care.

IT CAN'T HAPPEN HERE

Some months ago our newspapers were filled with stories of the devastation resulting from air raids over various European countries, telling of the many horrors resulting, the loss of lives, crippling of thousands, as well as the death of many hundreds of innocent civilians. In England many communities were totally unprepared and were practically helpless when it came to combatting the ill effects of the raids and endeavoring to save the lives of the many casualties.

Within a relative short time they were able to do something about it and were thoroughly organized in every community. Now with the many air raid shelters, methods of permitting rapid evacuation of large buildings and other places where raids under way are apt to trap many civilians, and with the well organized groups to render first aid treatment, evacuation of casualties to first aid stations as well as combatting fires and other consequences of the raids, they are cutting down the previous high mortality rates resulting from these raids.

Many in America feel that if they are a few hundred miles from our coastal areas they are completely secure, and they feel there is no danger even in war time of such disasters coming here. For more than a year every community has developed some form of Civilian Defense

program and has endeavored to train personnel to combat the many evils resulting from air raids.

In many states plans have been made to present courses especially in "target areas," for physicians, nurses and all others interested in the medical aspects of chemical warfare. Under the plan recommended by the Office of Civilian Defense a six hour course of instruction has been recommended.

Dr. John S. Coulter, Regional Medical Officer, Sixth Civilian Defense Region, and Dr. H. L. Pettitt, Chief of the Emergency Medical Service, State Council of Defense, are anxious to have six hour courses presented in several Illinois areas so that as many physicians as possible may become acquainted with this subject.

On January 14-16, 1943 seventy-one physicians from the Sixth and Seventh Civilian Defense Regions attended an instructors' course on "Medical Aspects of Chemical Warfare" presented under the auspices of the Office of Civilian Defense at Northwestern University Medical School in Chicago. The course was presented primarily for representatives of 15 midwestern medical schools who will subsequently organize courses in their own schools for the instruction of practicing physicians. No less than sixteen physicians participated in presenting the course which was well received by all present.

Under the recommended six hour course, two hours are to be devoted to the consideration of Chemical Warfare Agents, history and classification. The second two hour period is devoted to the pathology, symptomatology, differential diagnosis and treatment, while at the third two hour session, general protective measures are given complete consideration.

It was recently announced that gas has been used during the present war and no one can state when various poisonous gases may be used on an extensive scale, even though all nations agreed some years ago that gases should never again be used in warfare. The Illinois State Medical Society in conducting recent post-graduate conferences has devoted some time to a presentation of the subject of poisonous gases in warfare which was most interesting to all physicians in attendance.

Within a relatively short time there no doubt will be presented in several sections of Illinois, this six hour course referred to in this article, and it is hoped that many physicians of this state will attend the course and obtain all possible information on this highly important subject.

THE RIGHT SPIRIT

It was our privilege recently to read a letter from an Illinois physician now an officer in the United States Army relative to efforts which were being made to get him out of the Army and back in civilian practice. This physician had enjoyed a very good practice in his former location and following the death of another physician who was endeavoring to carry on during the absence of our good friend, an effort was being made by the many people in the community to get this man returned from the Army in the belief that he would serve his country to better advantage in giving civilian care which they believed to be of paramount importance.

This physician, like many others, was desirous of serving his country during the present war, although he thoroughly enjoyed his professional work and the esteem bestowed upon him by his many patients over a period of years. On the other hand, he thought that in the event he was returned to civilian duties, it would be unfair to many other physicians who had sacrificed as much as he had by entering service, and the reaction would not be so good if he should be singled out as the one man in his group essential at home.

He stated that he realizes there is a big job to be done, and although it is highly essential that the American people should continue to receive good medical care, his first duty now, and his principal allegiance is to his country. He believes that adequate medical care for soldiers and sailors should be the prime consideration, and that they must not be neglected. He stated that although many believe there are more medical officers in the armed forces than are actually needed at this time, he is not able to verify this opinion, and he is insistent that it is not up to him to decide this point. It is the duty of the Surgeons General and the military leaders to de-

termine how many physicians are actually needed to give the highest degree of medical care to our fighters.

In ending the letter he stated that he greatly appreciated the fact that his patients wanted him returned to his former location, but he was asking that every effort be made to get someone else to go in for the duration, and he would be happier knowing that his friends were receiving the care they need while he personally was doing those duties assigned to him in connection with the war effort.

Physicians who have voluntarily offered their services although making personal sacrifices to aid their country deserve much credit indeed. Those who remain in the field of civilian practice should carry on to the best of their ability, realizing too that they have certain sacrifices to make at home.

ANNUAL MEETING ILLINOIS STATE MEDICAL SOCIETY

May 18, 19, 20, 1943
Palmer House, Chicago

War and pestilence add to the doctor's burden. The accelerated tempo of our lives in the practice of medicine points unerringly to the need of a comprehensive survey of present scientific developments. This can best be accomplished by attending the Annual Meeting at the Palmer House in Chicago.

It is the 103rd Annual Meeting of our State Society and holds promise of being a big one since national conventions are being discouraged.

In addition to the usual commercial displays there will be many scientific exhibits. They will be diverse and of deep educational concern to each of us.

General sessions will be of great interest, but in addition, the special sections will appeal to those with particular interests. Army Day and Navy Day will give us an opportunity to hear prominent guest speakers, telling of the newer developments in military medicine and hygiene.

In addition to making your own plans to attend, tell all your friends you will meet them there.

H. Kenneth Scatliff, M. D.
Chairman Publicity Committee.

CALL FOR SCIENTIFIC EXHIBITS

The Committee on Scientific Exhibits of the Illinois State Medical Society announces that applications for exhibit space should be submitted promptly for consideration. Selections will be made as nearly as possible in order of receipt. Accordingly, it will aid the applicants and also the Committee if the applications are submitted early.

The Committee is particularly anxious to have exhibits which deal with the theme of this annual meeting, namely, "medicine and its relationship to war problems". This includes (1) the newer things that have arisen in civilian practice, teaching, and research; (2) all activities which and execution; and (3) all types of medical and execuition; and (3) all types of medical problems which confront industry.

The exhibits this year promise considerable change over those of former years. The Committee wants information about potential exhibits.

Communications may be addressed to Dr. H. Close Hesseltine, 5848 Drexel Ave., Chicago.

CURRENT LEGISLATIVE TRENDS

The year 1943 will undoubtedly be a most trying one to the medical profession, from the standpoint of proposed legislation which would affect the practice of medicine as it has heretofore existed in this country.

The danger of the socialization of medicine in the United States is more imminent today than ever before. It is common knowledge that the 78th Congress will soon be asked to take action upon a plan to greatly expand the Social Security Act. It is reasonable to anticipate that the plan as presented, will not only extend the provisions of the Act to virtually every employed person in this country, but that among other things it will provide for compulsory health insurance, by allocation of funds for the purpose of providing and paying for medical and hospital care for the employee when sick or injured. Compulsory health insurance and socialized medicine are inseparable. Under such a system, the patient would no longer be free to choose his own physician. He would receive such medical attention or hospital care as might be authorized by a lay administrative body. The

physician would be designated and paid not by the patient, but by the government and he would thus become, to a great extent, an employee of the State.

A review of the experience in England, which has had socialized medicine since 1912, demonstrates that under such a system the cost of medical care increases, the quality decreases, and that the average worker is absent from his work several times as many days per year as was the case under a system of free medicine. No one will deny that the goal of making competent medical care available to all who need or desire it is a most worthy one, but the socialization of medicine — which has proved a failure elsewhere — is not the answer.

There is now pending in Congress a bill to amend the United States Employee's Compensation Act, so as to permit chiropractors to treat injuries to employees covered by that Act. The real purpose of this bill, which has been unsuccessfully brought forward several times in the past, is to gain some federal recognition of the chiropractor, and thus increase his prestige in the various states.

As of this date, nothing has been presented to the General Assembly of Illinois which is of particular interest to the medical profession of this state. It is certain, however, that a great number of bills directly affecting the fields of public health and the practice of medicine will be introduced in the next four months. The Society's legislative committee expects that the usual crop of low-grade bills will again be presented, this time under the cloak of national emergency and public necessity. All such measures will be vigorously opposed.

John W. Neal, Exec. Sec., Legislative Com.

UNSUNG HEROES

The following appeared in the St. Louis *Globe-Democrat* on January 17.

Among the unsung heroes of this war are the doctors who serve mankind right here at home. Not able to enter into the service for our armed forces because of family dependents, or age, they've gallantly taken on three or four times the practice to which they were accustomed (and physically conditioned) during peace time, and they are working at such breakneck speed that their energy and their health are fast becoming affected.

Up in the morning at 6 o'clock when the skies are as black as pitch . . . off to the hospital to perform two or three operations . . . house visits here and there, and all over the town on patients too ill to come to the office, or loathe to use their gas . . . emergency calls catching up with them at every stop. . . . A dash to the office where 30 or more irritable people await to recount their ills and their woes — even their financial or domestic troubles . . . constant demands on the telephone . . . a bite of uninteresting food sent in from a near-by drugstore, sandwiched between patients, swallowed in gulps. . . . At last, a brief breathing space when the last patient has finally been cared for . . . but more calls to be made on the bed-ridden . . . then afternoon office hours again (this time from 4 o'clock till heaven knows when), with emergency requests pouring in to "come here — come there at once — at once!"

No time for dinner, no time for family, no time for home. . . . They're worked beyond all human capacity, these soldiers of the medical profession, in their gallant and uncomplaining service to mankind on the home front. . . . A salute to them, and "God bless you, every one!"

That pulmonary tuberculosis is not uncommon in elderly persons is a fact that seems to fail to impress both the public and the physician, possibly due to the nature of the older body affected by a chronically progressive disease. Those who have studied pulmonary tuberculosis in the higher age groups are impressed with the lack of emphasis on this phase in the study of the disease. A flank attack on this weak spot would corcumvent more circuitous methods to the same end, namely, the lessening of the general incidence of tuberculosis. J. T. Freeman, M.D. and C. A. Heiken, M.D., American Jour. of Medical Sciences, July, 1941.

The education of most tuberculous patients may be handled best on a personal basis, but few physicians have time to give individual instruction to many patients. A well qualified nurse can accomplish much in a hospital by meeting the patients singly upon admission and giving instruction in regard to the technique of controlling the dissemination of infectious organisms, the importance of rest and a general orientation to the routine of institutional life. For some individuals a simple conversation, indicating the technique necessary for the hygienic control of cough and care of expectoration is all that is necessary. Many patients, however, need repeated instruction and encouragement including demonstrations. Esta H. McNett, R.N., Amer. Rev. of Tuber., Nov., 1942.

Correspondence

ANNOUNCE REFRESHER COURSE

A refresher course in laryngology, rhinology and otology will be given March 22 to 27 at the University of Illinois College of Medicine.

To meet the needs of ear, nose and throat specialists who, under existing conditions, are able to devote only a brief period to postgraduate review study, this didactic and clinical course has been arranged. Registration is limited. The fee for the complete course is $50.00. In letter requesting application for registration, state school and year of graduation, also details concerning specialty training and experience.

Address Department of Oto-Laryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago, Illinois.

SCHEDULE FOR TWENTY WAR SESSIONS ANNOUNCED BY AMERICAN COLLEGE OF SURGEONS

New developments in military and civilian medical and hospital service will be brought to members of the medical profession at large, and hospital representatives, through a series of twenty War Sessions, which began March 1, to be held throughout the United States under the sponsorship of the American College of Surgeons with the cooperation of other medical organizations and of the Federal medical services.

Each War Session will consist of an all-day program, lasting from 9:00 o'clock A. M. to 10:00 P. M., including luncheon and dinner conferences. There will be eight meetings in each session, four of which will be for the entire assembly, and the remainder divided into two meetings each for physicians and for hospital representatives. Subjects will be similar in the different places but some of the speakers will be changed in the different states and service commands. Nationally known representatives of the United States Army, the United States Navy, the United States Office of Civilian Defense, the United States Procurement and Assignment Service, and the United States Public Health Service, will address the meetings and will lead discussions, in addition to participation by prominent leaders in civilian medical practice and hospital service.

Topics to be discussed relating to military medicine will include care of the ill and injured in combat zones and after evacuation. The newer types of injuries encountered in this war, such as crush and blast injuries, will be especially considered, together with prevention and treatment of infections, and treatment of burns, shock, and injuries of specific parts of the body. Anesthesia, plastic surgery, and the psychoneuroses of war, will be some of the other topics. Problems of civilian medical care in wartime which will be discussed will include the responsibilities of individual doctors and hospitals; personnel problems of hospitals; organization of emergency medical services; maintaining adequate supplies, furnishings, and equipment; maintenance of high standards of medical and nursing education, and of hospital service in general; hospital public relations; and administrative adjustments in professional staffs of

hospitals. The opening meeting of each session will be devoted to discussion of "Medical and Surgical Aspects of Chemical Warfare," led by a representative of the United States Office of Civilian Defense, and the closing meeting will be a panel discussion on problems in wartime civilian medical practice to be led by representatives of the United States Public Health Service, the American College of Physicians, the American Medical Association, medical services in industry, and the American College of Surgeons. Some of the topics for consideration at this meeting will be endemic and epidemic diseases, including tropical diseases; medical services in industry; medical and surgical practice; and supplementary postgraduate education for medical officers and civilian doctors.

ONE HUNDRED FIFTY GRADUATE AT MARQUETTE

Rear Admiral Ross T. McIntire, Surgeon General of the United States Navy and personal physician to President Roosevelt, gave the Convocation Address and had conferred upon him the degree of Doctor of Science (honoris causa) at the Commencement Exercises of the Marquette University School of Medicine in the Milwaukee Auditorium, Saturday evening, February 13th, 1943.

As a result of the accelerated program in medical education and the abolishment for the duration of the War of the requirement of the internship, which has existed since 1918, for the degree of Doctor of Medicine, two classes of one hundred and fifty students were graduated. There were 73 students in the class that entered the Medical School in 1938 and 77 who entered the Medical School in 1939. All of these graduates will serve a twelve-month internship as Doctors of Medicine, which corresponds with the custom of the majority of medical schools in the United States and Canada.

All students in the Marquette University School of Medicine, like those in other class A medical schools in the United States, are Reserve Officers in either the Army or the Navy. These medical schools are the only source of supply of medical officer personnel and function like Annapolis and West Point in the education of line officers — Eben J. Carey, M.D., Dean.

RESEARCH PRIZE CANCELLED

The $500 Research Prize annually offered by the American Urological Association will not be awarded this year.

The Government has again discouraged the holding of medical conventions, except those primarily of military interest — and at these there is to be a ban on social events. Under the circumstances, plans for the June meeting of the American Urological Association in St. Louis have been cancelled.

Miley B. Wesson, M.D.
Chairman, Committee on Research
American Urological Association

AMERICAN RED CROSS

National Headquarters
Washington, D. C.

Illinois State Medical Society: —

I am writing to announce the appointment of G. Foard McGinnes, M.D. as Director of Medical and Health Service of the Midwestern Area of the American Red Cross with headquarters in St. Louis. Your state is included in this Area.

Dr. McGinnes comes to the Red Cross from the Tennessee Department of Public Health where since 1929 he was Director of Venereal Disease Control Service, Associate Professor of Preventive Medicine of the University of Tennessee and Chief of the Department of Siphilology, Meharry Medical College. Previous to 1929 he was with the Virginia State Department of Health, Director of Bureau of Communicable Diseases.

It is important that sound and constructive relationships be maintained between the American Red Cross and the medical profession in the several States. Doctor McGinnes' clinical back ground and viewpoint will, I am sure, promote such relationships.

I would appreciate your carrying a notice of this appointment in your State Journal in order that your County Societies may know of his appointment and availability in the discussion and promotion of medical-Red Cross relationships.

Sincerely yours,
Albert McCown, M.D.
Director Medical and Health Service

WOMANS' AUXILIARY NOTES

Convention Headquarters:

Palmer House, Chicago, Illinois

The Sixteenth Annual Convention of the Womans' Auxiliary to the Illinois State Medical Society will be held in Chicago, Illinois May 18-20th with headquarters at the Palmer House.

The Committee on arrangements is making every effort to present an interesting program. All doctor's wives are invited to attend the general sessions and all social functions.

Read your April and May, Illinois State Journal Auxiliary news for the complete program, and plan to be with us May 18-20th.

Cordially yours,
Bernice L. Stigman
(Mrs. Charles W.)
Convention Chairman

To all Presidents:—

In my capacity as President of the Woman's Auxiliary to the Illinois State Medical Society, I offer my services to you and your members. I shall be very happy to assume the responsibility of forwarding to all State and County Auxiliary presidents, the name and addresses of our members who are temporarily located in their districts, as we have many of our doctors serving in base hospitals throughout the country.

We as an Auxiliary should extend warm hospitality to these loyal wives and members whenever the opportunity presents itself. Let us feel it our personal obligation to our doctors and Auxiliary members.

Remember, no list too long or short for attention.

Trusting you will co-operate and forward a list of your members who are away from their own county, I am,

Yours most sincerely,
Mrs. W. J. Wanninger, President
Mrs. C. R. Landis, Corres. Secy.

AUXILIARY MEMBERS

This war is showing us that we need one another desperatcly. New responsibilities are being forced on all of us. As never before, we realize the necessity of pulling together to fight the common enemy, but we can not blindly ignore the confusion and division that still exist in this country in the second year of war.

The work of the woman's auxiliary must concentrate on this effort, through our own particular programs. Let us all do all we can, both as citizens and members of the woman's auxiliary, to aid particularly in safe-guarding the public health, the fundamental issue in civilian defense.

As our year is nearing the end, let us think back. *How does a member support her auxiliary?*

By —

1. Paying dues.
2. Attending meetings.
3. Accepting offices, and chairmanships in other organizations, especially those related to health.
4. Co-operating in the sale of Defense Stamps and bonds.
5. Red Cross, First Aid, Nurses Aid, Home Nursing and Nutrition programs, all come under the national emergency.

Let us all do our part.

Mrs. M. A. Nix
State Organization Chairman and
President-Elect.

THE INDUSTRIAL FRONT

Three hundred and fifty million work days lost annually through illness of the gainfully employed is our country's discreditable record. At a wage of five dollars a day this means a $1,750,000,000 yearly deficit in labor and production. Assuming that half of this is due to preventable disease we could build a dozen battleships in the time saved by full use of known preventive measures.

In working days lost per case, tuberculosis heads the list of unnecessary disabilities. This national loss is not due alone to doctors, nor the public health service, nor the ignorance and carelessness of the people themselves. The blame belongs to all three. The fervor of patriotism sweeping the country keeps our eyes fixed overseas. We are united in the will to annihilate despotism and reestablish freedom for all nations. This is our duty, but we must not forget the treacherous enemy within our own boundaries. Tuberculosis, in collusion with its fellow fifth columnists, is impeding victory by a campaign of sabotage behind the lines.

The armed forces have foreseen the menace of tuberculosis in the ranks and are taking active measures to combat it. Industry has awakened to the threat but is still floundering in its effort to thwart it. The medical profession is only half alive to its opportunities for patriotic service. Right now is the moment to stand by the men who make the guns in an all-out fight to eradicate this leading saboteur of victory. Kendall Emerson, M.D., Journal Lancet, Apr., 1942.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

During the past years the writer has received many letters and expressions regarding this column. The large majority have been in accord with the views expressed. There have, however, been some who have felt that the views expressed, and the writer, are Anti-Administration, and that during these times such expressions tended to disunity and to give aid and comfort to the enemy.

It is generally conceded that in a democratic country that we must have a two party system, and a two party system cannot survive without a strong minority party. Those who do not always view the sentiments of the party in power can be classified as Anti-Administration, but not as Anti-American. The tendency for the political parties to get into power, rise to considerable power, and then be replaced by the minority party is an expression of a real democracy.

We are now engaged in discussing Post-War Planning. This encircles the broad field of management, economics, social security and political administration. Management is already setting up plans for the Post-War period, because management realizes that there must be a swift shift from war to peace which means total reorganization of our production and distribution. The government is considering the social security changes they deem necessary in the Post-War period to insure economic and social security.

Labor is concerned over the future of employment and the standards of living they are to have, and the part that they are to take in management. Farmers are, likewise, interested in Post-War Planning because they have many problems for which some solution must be found. Medicine is interested in how all of these readjustments will effect it. We are concerned about the ruling of the Supreme Court and its effect on the practice of medicine as a whole. We are concerned about medical education and the maintenance of the high standards developed in the last thirty years.

Many of these problems are confusing, and the method of approach to the solution of these problems must be carefully considered. Whatever the final outcome is medicine will be effected by it. Not only, is the approach to these problems essential, but the organization to make the approach is also important. The guarding influence in this approach must be by the leaders of American medicine. All organizations sharing an interest in the future of the medical practice should be drafted together for their Post-War Planning before any single organization presents or adopts any planning for the present or the Post-War period. The meeting to be held at The Waldorf Astoria, New York City, March 15, brings representatives of the following organizations together.

American Medical Association; American College of Physicians; American College of Surgeons; American Drug Manufacturers Assn.; American Hospital Association; American Pharmaceutical Mnfrs. Assn.; American Pharmaceutical Association; American Surgical Trade Association; Wholesale Surgical Trade Association; National Physicians Committee for EMS.

This should create unity of purpose, give rise to intelligent discussion and set the pace for solidarity of purpose and the approach.

There are those among the profession who feel that the American Medical Association has lost considerable of its influence and prestige, and that the approach should be made by independent organizations. There may be merit to the wisdom of other organizations making the approach but in the final analysis the American Medical Association will be to a large extent the determining factor.

Medicine's Role in the War Effort

PROCUREMENT OF MEDICAL OFFICERS FOR THE ARMY IN 1943

NOTE.—*The following is an official statement from the Medical Corps of the United States Army indicating the procedure to be followed in procuring medical officers for the Army during* 1943.—ED.

The Surgeon General is responsible for the procurement of medical officers for the Army of the United States. There is an Officer Procurement Service set up by the War Department for the procuring of applications of individuals for commission in the Army. The War Manpower Commision has set up a Procurement and Assignment Service for Physicians, Dentists and Veterinarians to designate the individuals who are essential to the community and those available for duty with the armed forces.

In order to coordinate the work of these two agencies, the Surgeon General has outlined the following procedure for the procurement of officers during the year 1943:

The state chairmen of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians will from time to time prepare lists of individuals who are declared available for duty. Their names will be sent to the Central Office of the War Manpower Commission in Washington, D. C. There a card will be prepared and sent to the individual informing him of the fact that he has been classified as available for military service and requesting that he send the attached card to the state chairman of the Procurement and Assignment Service signifying his interest in applying for a commission, and stating his preference for duty with the Army or Navy. Those who choose to serve in the Army may request that their papers be processed with the idea of assigning them to duty with the Air Forces.

The state chairmen will furnish the candidate to the designated field office of the Officer Procurement Service of the War Department. This office will request the individual physician, dentist or veterinarian to complete the proper application blanks and return them to that office and to have a final type physical examination, which will be accomplished at the nearest properly equipped army post.

The Officer Procurement District's office will forward the papers to the Surgeon General in Washington, who will then review the application for commission in the Medical Corps, Army of the United States. Those applications with the notation "Air" as designated will be referred to the Office of the Air Surgeon for further classification and assignment. Those applicants who are favorably considered will be notified at the earliest possible date by the Office of the Adjutant General that their recommendation is accepted and will receive orders to proceed to their proper station.

It is hoped by following this procedure that the Surgeon General will be able to provide an adequate medical service for our armed forces. It is contemplated that all individuals who are classified as essential to the civilian medical needs will not be asked to apply for a commission. No individual so classified need con-

tact the Surgeon General or apply for a commission unless he can make arrangements with the state chairman of the Procurement and Assignment Service to have his classification changed from essential to available. The cooperation and interest of all physicians who are interested in military medical service will be appreciated, in that by proper application and processing of their case it will be much easier to provide necessary medical care for all parts of both the civilian and military services.

Concurrent with the changes in the military and civilian requirements for physicians and the changes in the recruiting procedures, the Surgeon General has announced the following policy, which will govern action to be taken in the consideration of ages and grades of initial appointments on all applicants effective Feb. 15, 1943:

1. Eligible applicants for appointment in the Medical Corps, Army of the United States, under the age of 38 will be appointed in the grade of first lieutenant only.

2. Eligible applicants between the ages of 38 and 55 will be appointed in the numbers and in the grade for which specific position vacancies exist.

There is an acute need for medical officers under 38 years of age. Applications are being solicited from physicians of this age group in those localities that have not furnished their quotas of physicians and where they are designed by the Procurement and Assignment Service as available for military service.

Appointments will be made by the Adjutant General of eligible applicants recommended by the Surgeon General and approved by the Secretary of War's Personnel Board.

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EXPERIMENTAL MEDICINE IN RUSSIA IN THE WAR

Professor Lavrentiev

(Supplied by the Russian Embassy)

The All Union Institute of Experimental Medicine (VIEM) is the greatest medical research institute in the Soviet Union. Recently it celebrated its fiftieth anniversary. Besides I. Pavlov and Savich, many conspicuous scientists are associated with the institute, including Bykov and Speransky.

Shortly before the outbreak of war against Germany, the institute had two leading scientific centers, located in Moscow and in Leningrad, and a special biologic station with a monkey nursery at Sukhumi in the Caucasus.

Of particular interest in the studies carried out by I. P. Pavlov and his school is the production of the nervous diseases and neuroses in animals. Evidence from extensive investigations undertaken in the department of pathology, headed by academician Speransky, showed the leading role of the nervous system in human conditions of disease.

Among the clinical studies are those by Prof. A. V. Vishnevsky in local analgesia.

The invasion by Germany set before the institute two great problems which had to be solved as promptly as possible to alter the character of the problems pursued in the institute and to secure the productive research work in wartime. Decentralization of the institute was carried out, and a number of its laboratories were transported far to the rear. In July 1942 a session of the institute was held in Novosibirsk to summarize its achievements during the first year of war.

A. Smorodinzev has developed a method of prompt diagnosis of typhus. This method enables one to diagnose typhus on the second or third day of the disease and thereby to prevent its dissemination. Dr. Levkovich prepared vaccines against typhus following all existing methods (Weigel, Duran-Sparrow, Cox). These were tested on laboratory animals, as well as in clinics of the institute. Professor Petrischeva developed prescriptions of diverse extracts, preparations and ointments protecting man against lice. The chemical laboratories of the institute have found important diagnostic symptoms for identifying typhus. This concerns a peculiar chloride crisis undergone by the patient on the seventh day of the disease, chlorides disappearing from the urine to reappear again toward the end of the disease.

The bacteriophage laboratory headed by Professor Ermoliev has produced active phages against dysentery, pus forming cocci and cholera. Some interesting combinations of phage with modern chemotherapeutic substance (sulfapyridine and sulfathiazole) are proposed by this laboratory.

Application of chronaximetric methods to the injured and uninjured nerve was proposed by Prof. A. Magnitsky as a means for ascertaining

the lesion of the nerve stem without recourse to an operation. This method is now used in hospitals. In the laboratories of Professor Anokhin and Kharitonov, the causes of pain accompanying lesions of the nervous system have been ascertained and the methods of eliminating them proposed. Combating pains, acceleration of the nerve regeneration and the prevention of irregular growth of the nerves are at present the most important problems of neurosurgery. So far hospitals and physicians have been very pessimistic regarding the replacement of defects of the nervous system. Dr. A. Anokhin suggested a method of replacing defects of the nerve stems by transplanting human and animal nerves, preliminarily treated with formaldehyde. Many clinical cases have already been treated by using this method.

A special study of regeneration of the nerve and of the methods which may prevent its irregular growth and accelerate regeneration were carried out in the laboratory of Professor Lavrentiev. The method was devised of observing the regeneration of nerves in a live animal by means of vertical microscopic illumination. The great role of blood vessels was ascertained, which were shown to change and develop within the damaged area of the nerve stem.

Injuries of the brain were studied in the clinics of VIEM, headed by Professor N. Graschenkov. The work of the nerve clinic in VIEM was organized in such a way that observations on the wounded were begun at a dressing point at the front and completed in the rear at a hospital. This offered the possibility to follow both the healing process of the wound and the results of the preventive and curative treatment. In treating cerebral wounds, surgical methods were combined with intravenous and administration by mouth of modern chemotherapeutic substances, such as streptocide, sulfidin and sulfathiazole, which led to a great decrease in the mortality rate. The successful treatment of dangerous complications of skull wounds, as caused by microbes of gas gangrene, was devised. Professor Kaplansky and Professor Braunstein showed that long lasting pains elicit appreciable metabolic changes, closely resembling those associated in the human and animal organism with vitamin B deficiency, and the deficiency of this vitamin causes in its turn an inflammatory process in the nerve. This treatment, with large doses of vitamin B, proved effective.

Besides the common methods of treatment with heat, the electric current and light the VIEM clinic inaugurated occupational therapy. A wounded fighter gets gradually accustomed to movements associated with labor processes, such as sewing, hammering and planing. In this way the nervous system and limb are gradually reorganized and begin to perform movements which were impossible prior to the treatment.

The treatment of wounds of the suppurative processes of the joint and bone inflammations was taken up by the surgical clinic in VIEM. Prior to the war, Prof. A. Vishnevsky suggested treating the wounds by means of plugs soaked in an emulsion of balsam, tar and similar substances, with an admixture of xeroform. This method proved exceptionally effective in treating large wounds, those of the chest and abdominal cavity included.

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CARE AND DISTRIBUTION OF GAS MASKS

The Office of Civilian Defense, Washington, D. C., issued on January 20 Operations Letter 106, for the special attention of states and communities to which gas masks have been allocated.

Noncombatant masks are now being shipped from manufacturers and U. S. Office of Civilian Defense supply depots to communities which have received allocations of masks and have returned, properly executed, OCD form No. 501. These will be in assorted sizes.

Valuable and critical materials are used in the manufacture of gas masks. Hence care must be exercised in their handling, distribution and storage in order that the usefulness of the present limited supply may be preserved.

It is recommended that 5 per cent of the masks other than those designated for training purposes be held in reserve by the local property officer, that defective masks and those with exhausted canisters be replaced from this reserve and that the remainder, other than those designated for training purposes, be distributed to the protective services in communities in accordance with "Regulations No. 1, Governing Loans of Equipment and Supplies to Civil Authorities" (paragraph 7c).

It is recommended that about 20 per cent of the number allocated to each service be stored by that service in places readily available, as for example police stations, fire stations, sector wardens' posts, hospital and casualty stations serving as assembly points for medical teams, rescue depots, public works and public utilities warehouses. Storage must be in a cool dry place, and masks should be kept from contact with sunlight, oils or corrosive liquids and vapors. This increment of masks should be held as a reserve and should not be assigned to individuals. It is important that this reserve be decentralized as a safeguard against fire or bombing and also to permit rapid distribution in case of an emergency.

The remaining 80 per cent allocated to the services may be issued to individuals in the services but should not be carried by them during their daily activities. These masks should be kept at the post where the individuals will assemble during drills or enemy action. Under no circumstances should masks be assigned to individuals before they have received training in their use and care, including proper storage.

The commander of the local U. S. Citizens Defense Corps, through his senior gas officer, should immediately arrange a gas mask training program for those to whom masks are to be issued. If no senior gas officer has been appointed, steps should be taken to appoint one in accordance with Operations Letters 42 and 91.

In the training program the commander and senior gas officer of the local U. S. Citizens Defense Corps should utilize the services of individuals in the community who have attended the War Department civilian protection schools. If there are no qualified individuals, assistance should be sought from the state gas consultant, who may request aid from the regional director of the U. S. Office of Civilian Defense.

Repair of masks is not to be attempted locally except in case of extreme necessity. Defective masks or those with exhausted canisters should be collected by the local property officer and returned, preferably in lots of twenty or more, to the nearest U. S. Office of Civilian Defense supply depot for repair and replacement:

Salt Lake City, 341 Pierpont Avenue.
Chicago, 1750 Wrightwood Avenue.
Fitchburg, Mass., Willow Street.
Hanover, Pa.
Birmingham, Ala., 503 South Twenty-Second Street (Long Furniture Manufacturing Company).

When a local property officer has masks which he wishes to return, he should so notify the nearest depot commander, who will then send shipping instructions and a government bill of lading which will authorize the transportation of the damaged masks without expense to the locality.

After use, masks should not be worn by another individual without proper sterilization. Instructions for sterilization are given in Office of Civilian Defense publication "Protection Against Gas."

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COMMITTEES ON WAR PARTICIPATION

In a recent conference of the War Participation Committee of the American Medical Association it was urgently suggested that all state associations create similar committees, so that these committees may supplement the existing committees on medical preparedness, even without any change in their personnel. In this connection the chairman of the committee, Dr. Walter F. Donaldson, Pittsburgh, points out that the functions of this committee described by the House of Delegates of the American Medical Association which met in 1942 are as follows:

"It should feel free to express comments and criticism of policies relating to the participation of the medical profession in the war effort.

"Without authority to act, only to advise, it becomes a committee to express the views of the medical profession on such proposals as are made which may have a direct bearing on the principles which the American Medical Association regards as fundamental in the provision of good medical service."

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ROLE OF NURSES IN CIVILIAN WAR SERVICE

The role of nursing in the Emergency Medical Service for the care of civilians injured by enemy action is set forth in the latest bulletin issued by the Medical Division of the Office of Civilian Defense. "Nursing Participation in the Emergency Medical Service."

The nursing program of the Medical Division includes making of specific arrangements for nursing service with Mobile Medical Teams and in Casualty Stations and Casualty Receiving Hospitals;

cooperation with other agencies in plans for the acceleration of nursing education; preparation of accurate inventories of available nursing resources, and collaboration with the American Red Cross in its nursing programs, especially the Volunteer Nurses' Aide program. Nursing executives are also being enlisted for service in Emergency Base Hospitals to which casualties will be evacuated in the event of enemy attack upon coastal or other communities.

These activities have been promoted through the nursing section of the Medical Division, which was organized in October 1941 with a full-time nursing consultant as chief. To meet requests for field consultation, the U. S. Public Health Service, the U. S. Children's Bureau and the American Red Cross were requested to assign their field nursing consultants to act as field consultants for the OCD.

In addition to this consultation service, which is still active, the organization has now been expanded by the appointment of Nurse Deputies to the staffs of Regional Medical Officers in certain Regions. Forty-seven State Chiefs of Emergency Medical Service have appointed State Nurse Deputies and the appointment of local Nurse Deputies (city, county or other subdivision of the State) is going forward rapidly.

The new nursing bulletin of OCD presents in detail the duties of each Nurse deputy.

The Regional Nurse Deputy advises the Regional Medical Officer on all matters concerning the nursing program of the Medical Division as it develops within the Region. She cooperates with State Nurse Deputies and with nursing consultants of other agencies in the development of their plans and conducts conferences and institutes for the instruction of nurses in the Region. In order to provide for mutual aid if it should be necessary when disaster strikes, the Regional Nurse Deputy must be constantly informed concerning the status of available nursing service and must correlate the programs of the States of her Region. Finally, she assists in State and local recruitment and training of Nurses' Aides and other volunteer and paid assistants who may serve in Casualty Receiving Hospitals or Emergency Base Hospitals.

In describing the duties of the State Nurse Deputy, the bulletin emphasizes that she should be a member of the State Nursing Council for War Service and should be this Council's representative on the State Defense Council.

The first duty of the State Nurse Deputy is to mobilize the nursing personnel of her State for duty in the Emergency Medical Service. She must interpret the program to nursing groups and must keep local Nurse Deputies informed of developments. Advance planning with the State Hospital Officer for the provision of nursing service in Emergency Base Hospitals, if evacuation of patients to these institutions should become necessary, is an important function. Similarly, it will be her responsibility to plan with State evacuation authorities for nursing personnel to serve in reception areas. She assists the Red Cross and hospitals in the advancement of the Nurses' Aide program. To maintain up-to-date information on all phases of the program in her State, she is required to compile periodic reports summarizing information from local Nurse Deputies.

On the local Nurse Deputy falls the responsibility for actual execution of plans for service. The bulletin sets forth in detail the activities through which she assists the local Chief of Emergency Medical Service. Her primary duty is to see that adequate nursing personnel is available for the needs of the Emergency Medical Service. She must therefore interpret the program to local nursing groups, maintain a file of the nursing resources of the community, arrange for instruction of the nurses and nursing auxiliaries in their duties, and assist in assigning them for service in Mobile Field Units, in Casualty Receiving Hospitals and Emergency Base Hospitals.

To provide emergency nursing care in homes for slightly injured casualties, for convalescent patients discharged from hospitals to make room for casualties and for ill persons in shelters and rest centers, the local Nurse Deputy assists the local Chief in establishing centralized facilities.

In addition, she aids in the recruitment, training and assignment of Nurses' Aides and keeps current information concerning nursing deficiencies of local hospitals and health services so as to be prepared to supplement their personnel during periods of emergency.

For the information of nurses, the operation of the Emergency Medical Service is described, with emphasis on the nursing duties involved. Nurses are also advised as to the special training they will need for this wartime service, including first aid, administration of blood plasma and treatment of injuries from war gases. Knowledge of elementary principles of sanitary and public health engineering relating to the protection and maintenance of safe and adequate supplies of water, milk and food under emergency conditions is also valuable to the nurse, the bulletin suggests.

Nurses are urged to confine their volunteer activities to nursing service, but there are many related opportunities in their own field, the bulletin points out. Certain volunteer activities which can be carried out on a part-time basis by nurses who have home responsibilities, or who for other reasons can give only a part of their time, are listed. Examples are recruiting candidates for nursing schools, teaching home nursing and Nurses' Aide classes, recruiting candidates for Nurses' Aide courses, serving part-time in Casualty Receiving Hospitals and in medical field units.

An appendix presents pertinent information on such matters as the operation of the Air Raid Warning System; the U. S. Citizens Defense Corps; U. S. Citizens Service Corps; the Civilian Defense Auxiliary Group; insigne, identification and dress for nurses; personnel file for emergency nursing serv-

ice; relationship of the Office of Civilian Defense and the Red Cross; self-protection against injury from war gases and home water supply precautions.

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CIVIL AIR PATROL WILL TRANSPORT PLASMA IN EMERGENCIES

James M. Landis, U. S. Director of Civilian Defense, has arranged for the Civil Air Patrol to fly blood plasma supplies into stricken areas in the event of emergencies, the Medical Division, Office of Civilian Defense, announced in Circular, Medical Series No. 27, February 1.

In instances where it becomes necessary to supplement local stocks of plasma for the treatment of casualties caused by bombing, fire, tornado or other disaster and where other methods of transportation are not available or are inadequate, the Regional Medical Officer of Civilian Defense is instructed to contact the appropriate Wing Commander of the Civil Air Patrol and request emergency transportation for the plasma. Wing Commanders have been authorized to accept such requests only from the Regional Medical Officers.

These arrangements apply for all States except those located within the jurisdiction of the Western Defense Command, the Circular States. It is understood that in those States the Western Defense Command has sufficient nontactical airplanes available to furnish such transportation.

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REHABILITATION OF SELECTEES

Ninety-nine patients with hernia referred to the Illinois State Department of Public Welfare by the Selective Service System were cured and made fit for military service in the last six months, according to a report by the Illinois State Welfare Director submitted to Governor Green. Twenty-five were treated by local or staff physicians and 74 submitted to an operation by the chief surgeon of the Department of Public Welfare, Dr. Frederick Gruneck of Chicago. All these men were rehabilitated without charge in state hospitals.

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OATH TAKEN BY ALIENS

The director of civilian defense, James M. Landis, Washington, D. C., on January 7 issued Amendment No. 5 to Regulations No. 3 of the Office of Civilian Defense, effective immediately. The amendment adds to section 9 (*a*) the following: "The oath taken by each alien appointed to membership in the Defense Corps may omit the first two clauses of the form hereinbefore set forth."

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URGE SPEEDY NATURALIZATION OF ALIEN PHYSICIANS

Because of the acute shortage of civilian physicians throughout the United States, the Immigration and Naturalization Service has been directed to expedite the naturalization of alien physicians, according to a release from the Department of Justice, January 16. Immigration Commissioner Earl G. Harrison has issued instructions to expedite the filing of petitions for naturalization and to hold hearings in advance of their regular order on the calendar in the cases of practicing alien physicians or aliens who would be qualified to practice if they were citizens. In issuing the instructions, Commissioner Harrison pointed out that many states, either by statute or by the administrative ruling of licensing boards, require applicants to establish American citizenship before they are admitted to the state licensing examinations for the medical profession. Other states, he said, issue temporary licenses which are subject to cancellation unless citizenship is obtained within a specified period of time. The order expediting naturalization of physicians supplements instructions issued the service in January 1942 to expedite applications for citizenship submitted by aliens in the armed forces or engaged in national defense work. In the case of physicians they are not required under the new instructions to obtain a letter from a national defense agency testifying to the nature of their employment in order to secure national defense preference in naturalization. Attorney General Francis Biddle emphasized that the new procedure in no way affects the statutory requirements for naturalization but simply expedites the handling of applications.

An ex-patient was asked if he had tried a new device which is said to cut gas by half.

"Yes," he replied. "It did all the makers claimed for it, and it saved fifty per cent of my gas. I also bought a new carburetor which saved thirty per cent, got another brand of gas which saved twenty per cent, and some special spark plugs which saved another ten per cent. Then I took the car out for a test run, and I give you my word that the gas tank overflowed before I'd gone five miles."

"You can never talk to that patient," said the nurse to the doctor as they left a room on the women's ward, without her giving you a full recital of her ailments."

"Yes," said the doctor, "you might almost call it an organ recital."

Original Articles

CLINICAL CONSIDERATIONS OF SHOCK

Warren H. Cole, M.D.
CHICAGO

Shock may be defined as peripheral vascular failure which may proceed to the extent that blood pressure and radial pulse are unobtainable. This condition was common two or three decades ago in civilian life, but fortunately is not often encountered now in the average surgical ward or operating room. The reason for this decrease in the incidence of shock is explained by a better choice of time for operation and especially by an improvement in the operability of the patient through proper preoperative care. Moreover, surgeons are now learning how much operative work a given patient will stand, and refrain from overloading that patient from the standpoint of operative manipulations, etc.

Needless to say, shock is extremely common in this war, as it has been in previous wars. In World War II there are three major factors resulting in shock, namely, 1 hemorrhage; 2 burns; 3 explosion blasts. In civilian life, hemorrhage and burns are important factors, but excessive manipulation at operation is likewise a factor.

There are obviously many other types of shock. For example, it is not infrequently encountered as a result of certain types of anesthesia, particularly spinal anesthesia, and deep ether anesthesia. Still other types such as those produced by excessive amounts of insulin, anaphylaxis, etc., occur but are of no consequence to us today.

From the Department of Surgery, University of Illinois, College of Medicine.

Pathologic Effects. — Regardless of the factor producing shock, the major pathologic effect remains constant, namely, that there is a fluid loss from the vascular system. In hemorrhage the source of the fluid loss is obvious, in that blood itself is lost. In burns, there will be no hemorrhage (unless there is a complicating wound); however there is a loss of plasma into the tissues directly under the burn, and a loss from the surface of the burn. In addition to this local loss there is probably also a diffuse loss of plasma through the capillaries into the tissues throughout the body. Naturally, there will be a decrease in the blood volume with a diminution in cardiac output. Hemoconcentration as a rule, is present in burns or other types of shock not associated with hemorrhage. If hemorrhage is the cause of shock or complications from other factors, there may be no hemoconcentration; in fact there may actually be a hemodilution. Anoxia is present to a much greater extent than would be expected from the heart action. This is particularly important from the standpoint of therapy, as will be discussed later. There is an increase in capillary permeability accounting for the diffuse plasma loss. There is usually a decrease in the CO_2 combining power indicative of acidosis. The urinary output diminishes with the depth of the shock.

Clinical Manifestations. — One of the earliest signs of the development of shock is a decrease in the blood pressure. An increase in the pulse rate is almost as constant, but occasionally shock is noted with a pulse rate no greater than 90 or 100 per minute. There are, of course, examples of shock with no increase in rate or even

a bradycardia. For example, shock produced by head injury may be associated with a pulse rate slower than normal. The patient's skin is pale, cool and moist, constituting what is frequently spoken of as a "clammy skin." The color is somewhat ashen, and the lips and nail beds may be actually cyanotic. The patient may be nauseated and may vomit, but this is by no means constant. The mental status usually does not vary much from normal. At times there may actually be euphoria. Apathy and stupor is more apt to be present in deep shock. Unconsciousness does not develop until the late stages.

Treatment. — The treatment depends on the cause. If hemorrhage is the important factor, *blood transfusion* obviously is the therapy most strongly indicated. If due to a burn in which hemoconcentration is present, the transfusion of plasma (without the red cells) is the procedure of choice. Since there has been no red cell loss, and there is an actual increase in the count, the transfusion of additional red cells would not be indicated. As a matter of fact, transfusion of whole blood will be detrimental insofar as the red cells contained in the blood may add to the viscosity which is already increased. Transfusion of whole blood could, therefore, interfere with cardiac output. When there is a combination of external blood loss and internal plasma loss the indications for either blood or plasma are not so clear cut but one of the two must be given. In general, if there has been a significant loss of blood the transfusion should consist of whole blood and not plasma.

Since there has been a fluid loss, regardless of its type, *fluid* must be replaced. The plasma or blood will partially replace this loss but not sufficiently. Glucose (5%) with or without saline should be given intravenously in quantities varying between 1000 cc. and 3000 cc., during the first 24 hours, depending upon indications. If saline is given, no more than 1000 to 1500 cc. should be given in a 24 hour period lest a salt edema be produced. Glucose and saline alone are practically ineffective in the treatment of shock. When a colloid such as blood or plasma is given, the glucose is distinctly beneficial. They are distinctly helpful, however in the prophylaxis of shock. Their inefficiency in the actual treatment of shock is dependent upon the fact that they may actually wash out electrolytes, and that they are rapidly excreted from the blood stream.

Body heat must be maintained. The temperature of the air about the patient to a great extent indicates the amount of heat necessary. There is a *great tendency to submit patients in shock to too much heat therapy.* During the past year or so, it has been shown by Blalock and Brooks that heat may cause sufficient vasodilation actually to increase the depths of shock. Moreover, if heat is utilized too extensively the metabolic processes may be stepped up so much that the products of catabolism are increased to the point where they are injurious. The use of hot air blowers, etc., is to be condemned since heat of this type is severe enough to result in deleterious effects. In reality, hot water bottles or warm blankets are applied in sufficient quantities to maintain body heat and not with the intention of bringing the temperature up sharply.

Elevation of the foot of the bed is definitely indicated to maintain adequate cerebral circulation. This is particularly important when we consider that one of the various deleterious effects of shock is cerebral damage incident to anoxia resulting from insufficient circulation. Since most patients with shock actually suffer from anoxia, *oxygen therapy* is frequently indicated. In general, the deeper the shock the more strongly indicated is oxygen therapy, which may be administered by a nasal tube, a Boothby mask or by means of an oxygen tent. Administration of oxygen moistened by passing through water and leading backward into the posterior pharynx through a small rubber tube in the nares, at a rate of 5 to 7 liters per minute is about as effective as any other method, and is in general much more simple than other methods. *Morphine* should be given in liberal quantities to relieve pain and apprehension. It is likewise conducive to sleep which is extremely important to patients who are critically ill. Morphine should not be given to an individual whose diagnosis is indefinite as related to abdominal injury. Neither should it be given, except in very rare instances, to patients with shock due to head injury.

It is essential that treatment be instituted immediately. A blood loss of 2 or 3 liters may be sustained with a consequent shock of great intensity, but which may be corrected rapidly by proper treatment including immediate transfusion. If the transfusion is immediate, the blood pressure and pulse rate return to normal and the patient feels well within an hour or two. On the contrary, if effective treatment such as blood transfusion is delayed for four or five hours the patient may respond so poorly to blood transfusion that survival may be in doubt. There is a crucial interval after which even the best therapy will not permit survival. It must be remembered, therefore, that treatment must be given *instantly.*

Very few drugs are indicated in the treatment of shock. Certain of them, previously used, are distinctly contraindicated and harmful; adrenalin and pituitrin are examples of harmful drugs sometimes used. The serious collapse which follows the stimulating effect of adrenalin and pituitrin explains the contraindication. It is true that cortical extract appears to have a beneficial effect in the treatment of shock particularly in its prophylaxis. Pectin has a beneficial effect in preventing blood loss from the vascular tree, but its use likewise is somewhat experimental. Acacia is effective in restoring blood volume through its colloid reaction, but is stored in the liver and excreted so slowly that the administration of more than one injection is contraindicated.

Many precautionary measures may be taken which actually result in the *prophylaxis of shock.* Adequate immobilization and splinting of fractures of extremities with traction during transportation will minimize the development of shock. The gentle handling of tissues without severe retraction will likewise minimize shock. Strict hemostasis should be emphasized since the blood loss at all operations is always greater than considered by the surgeon.

Treatment of War Conditions. — Under war conditions, shock may be produced by loss of blood, burns or blast. At the front line the battalion surgeon will encounter shock due to hemorrhage more frequently than to any other cause. Under those circumstances the transfusion of whole blood would be indicated. The transportation of whole blood and the complication of divisions in blood groups make transfusion of whole blood inconvenient, and even impossible when we consider that it can be stored only for a few days. However, it is now well known that blood plasma can be stored almost indefinitely. This is true of dried, frozen or liquid plasma. If the plasma is liquid it should be kept in a refrigerator at a temperature between 2° and 4° centigrade. If it is frozen it will have to be kept in a refrigerator at a temperature below freezing. If it is dried it may be transported at normal temperature and will keep for years. The use of dried plasma is so convenient that it is now being utilized in the Army and Navy to the exclusion of all other forms of blood. In fact, all the plasma being dried at the present time is being turned over to the Army and Navy. Plasma is effective in any type of shock although in hemorrhage the injection of blood would be slightly preferable. However, in military service, the advantage of whole blood over plasma even in shock due to hemorrage, is not sufficient to justify attemps to use blood except perhaps in base hospital units. The dried plasma is put up in packets along with needles, sterile water, etc., so that it actually can be used at the front line where the soldier has been hit.

Blast Shock. — During World War I blast shock was not recognized as it is during World War II, although on many occasions the effects of so-called shell shock were similar. Another reason why blast shock was not recognized during World War I lies in the fact that the explosions of the shell during that war were of much less consequence than the explosive force of the shell in World War II. This increase in force, therefore, has produced a definite type of injury which is now known as blast shock, or blast concussion.

Early in this war, the English recognized the serious effects of blast shock in so far as critical injury might be sustained by the victim without any external evidence of injury. In fact, many people have been found dead as the result of the blast without any external evidence whatsoever of injury. Autopsy in such cases revealed minute hemorrhages throughout the lungs, brain

and other vital organs. The experimental work of Zuckermann has shown that the explosive force acts directly against the abdomen and chest with the resultant intra-thoracic and intra-abdominal injuries. Such injury can be prevented by the application of a rubber protector on the side of the explosion. This would suggest that civilian or military personnel could be protected to some extent, by wearing some sort of a protector, particularly on the anterior surface of the chest and abdomen. This, of course, brings up a serious economic problem which might prevent use of the protector. Presumably, the sudden force against the chest and abdomen exerts pressure upward by means of the great vessels of the neck into the brain with a resultant concussion of a severity which varies with the force of the explosive blast. Apparently, considerable damage may be inflicted on the brain with no more evidence than petechial hemorrhages into vital structures.

The English have found that patients suffering from blast shock tolerate operative procedures and other manipulations very poorly. Although a patient known to have been near an explosive blast may present very little evidence of shock in so far as blood pressure, and pulse readings are concerned, yet he may sink rapidly into severe shock with even slight manipulation incident to closure of a minor wound. Obviously, any patient showing signs of shock such as low blood pressure, disturbed heart action, etc., is just as severely ill as any other patient in so-called surgical shock. As a matter of fact, the condition is much worse than surgical shock since there is damage in the brain, lungs, adrenals, etc., in the form of tiny hemorrhages or lacerations.

The treatment of this shock varies little from that of so-called surgical shock. The patient should be immobilized to bed rest, and a transfusion of plasma or whole blood given along with addition of other fluids. Heat is applied cautiously to maintain body heat. No drug therapy is indicated beyond mild stimulants. In other words, adrenalin, and pituitrin are contraindicated. The question of residual mental symptoms following blast shock cannot be answered at the present time. The author is fearful that there may be considerable residue in such patients, and that many of them may be incapacitated so much mentally that they cannot maintain their normal social funcion in life.

BLAST INJURIES OF THE CENTRAL NERVOUS SYSTEM

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There is a group of injured soldiers in whom changes occur as the result of rapid and extreme changes in atmospheric pressure and without the production of external evidence of injury, but with ensuing severe disorders. Illustrative of this is Ashmead Bartlett's description of a "valley of death" in the Dardenelles. "In one corner seven Turks with rifles across their knees, are sitting together. One man has his arm around the neck of his friend and a smile on his face, as if they had been cracking a joke when death overwhelmed them. All men have the appearance of being merely asleep, for of the seven I see only one who shows any outward injury."

To understand the effects of high explosive bombs, it is useful to know that when a high explosive is caused to burn by a suitable stimulus, the explosive is, within its own volume, suddenly converted into gas at a very high temperature and pressure. The effect is that of a sudden blow on the immediate surroundings, the violence of which depends on the velocity of detonation and pressure produced. The high pressure generated by the conversion of the solid explosive into gas causes the metal case to swell until it reaches about one and one-half times its original diameter, when it bursts into fragments or splinters. Immediately fragmentation occurs, the hot compressed gases are suddenly released and force their way past the fragments with a velocity of the order of 7000 feet per second. The air in contact with the gas is suddenly compressed, with the result that an intense blast pressure pulse or shock wave is formed at the boundary of the gases. This

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airborne shock wave is analogous to an ordinary soundwave, except that its amplitude and velocity are greater, as is its wave form. As the wave travels outward from the source its amplitude and velocity concurrently decrease, the velocity becoming stable at about 1100 feet per second. The violently expanding gases may be regarded as constituting a localized zone of expansion. In this zone there is essentially an outward movement of gas, giving rise both to intense pressure and dynamic forces which rapidly diminish with distance from the center of the explosion.

The shock wave consists of an initial positive pressure phase followed by a negative phase, which is probably followed by a small decaying oscillation. In the initial positive phase, the pressure rises almost instantaneously to a maximum and then decreases linearly to zero, and the suction phase follows. The total duration of the combined positive and negative phases is about 1/30 of a second. For a 70 pound charge, Zuckerman has said that the positive phase lasts .006 or the negative .030 second. In the case of a 60 pound charge the velocity is almost 1500 feet per second at 30 feet from the charge. The wave pressure is highest in the region of the explosion and falls off rapidly the further it moves away. Thus, 15 feet from a 125 pound charge, the hydrostatic pressure may be of the order of 220 pounds per square inch, whereas 50 feet away the maximum pressure recorded will not be more than 10 pounds, these figures representing pressure in excess of normal atmosphere of 15 pounds per square inch. Sutherland has said that in some cases of blast compression wave pressures up to 200 atmospheres have been observed.

Much has been written about the "suction" effect variously described as recoil, aspiration, decompression. It seems likely that it is the result of a wave of rarefaction following immediately on the wave of compression. The order of change of pressure to less than atmosphere is of course far less than the positive change and could never exceed 15 pounds per square inch; as above noted, its duration is far greater.

In addition to the effects of change in atmospheric pressure and dynamic effect of a traveling wave, an explosion in a confined space instantly deoxygenates the air and produces high concentration of CO and NO.

It may be seen that the effect upon any object or man will depend, among other things, upon the distance from the center of explosion. Thus Carver and Dinsley describe three zones about the point of detonation. That nearest is the zone of brizance in which all life is destroyed. Hughes and Banks note the rending of soldiers into pieces, disintegration rather than rending, stating that these effects are less noted in the open and not much felt beyond 30 yards. In the next zone CO was under compression, and death without external evidence of injury occurred, with capillary hemorrhages in the nervous system; further out in this zone a state of stupor, and awkward gait were observed; and in zone 3, no serious lesions but later development of neuroses.

Time does not permit of a discussion of the manner in which blast concussion acts upon the human body. In relation to the lungs, it is now largely thought to be the result of the impact of the pressure wave upon the chest wall and not a lowering of alveolar pressure by the suction wave. In relation to injuries of the nervous system, older writers compared the effect to caisson disease, Thomas speaking of the sudden snatching away of atmospheric pressure around the body by the voracious vacuum suddenly produced outside. However, although the order of the change of pressure from the height of compression to the lowered point of decompression is quite large, the time during which the change is taking place is too short to permit escape of gas from the blood. Some transmission of increased intrathoracic pressure may occur, and although it is conceded that when a liquid body is immersed in an atmosphere of increased pressure, all parts of the body instantly attain the same pressure, there is a possibility that intracranial pressure does not follow the pressure change of the ambient air instantaneously, since such changes must act through the viscous elastic vascular bed.

Hooker and Fulton have raised the question as to whether the symptoms of air concussion were not similar to traumatic concussion. There remains the question of pleural shock and fat

emboli. De Guiterrez-Mahoney has reported that in concussion widespread demyelinization of nerve tracts followed by the transient appearance of fat droplets throughout the cerebral substance can be detected; outspoken fat embolism may also result. The fat droplets and emboli tend to disappear within three or four hours, thus explaining the failure to find them in tissues of animals killed and fixed after longer periods of time.

As to the effect of the forces of blast upon the body, Sencert, in 1915, described the case of a man who was able to tell how, as he was going forward, a large calibre shell fell less than a meter in front of him and exploded. He fell back and lost consciousness, was picked up and when after 10 hours he was brought to the ambulance, was found to have no wound other than small skin wounds of the right arm, finger and ear. After he had died during the night, an autopsy revealed among other things a large tear at the base of the middle lobe of the right lung and a pleural tear over the left with a herniation of black lung.

Numbers of men were picked up dead in the vicinity of an explosion without external injury. Isolated reports of the presence of lung injury may be found; Mairet and Durante, Russca of Berne, and Crile described such injuries in animals exposed experimentally to nearby explosions. It was not, however, until the present war that there was a general recognition of the prevalence of lung injury in association with blast. As pointed out by Fulton, Hooker's experimental studies, published in 1924 and arousing little comment, afford the most thorough experimental analysis as yet available. In his experiments, likewise, hemorrhagic lesions of the lungs are described. The more recent experiments of Zuckerman graphically show the vulnerability of the lungs to blast. Although deaths from uncomplicated primary blast are rare in civilian areas, many well authenticated cases have been reported. What was a mystery from 1914 to 1918 has become a banality.

To introduce the subject of injuries to the nervous system an abstract of one of Mott's early cases may be cited. A soldier became rather nervous at the Somme and later underwent intense bombardment for some four hours. Although he said he "could not stand it much longer," he carried on for twelve hours more, when perhaps six shells went over, one of which burst about 10 feet away just behind the dugout. The first day of the bombardment he was tremulous and depressed, later coarsely tremulous in the limbs. Following the nearby burst of shells, there was crying and inability to walk or do any sort of work. Questions were not answered. The pupils were dilated. On the same evening the man was admitted to the field hospital in acute mania, shouting "Keep them back, keep them back." Thus far the description could in a general way fit hundreds of cases, but on the morning of February 24th he awakened apparently well, then suddenly died. With the exception of some small scratches on the anterior chest there were no signs of external violence. Both lungs were edematous and the left lower lobe showed considerable hemorrhage. Hemorrhages were found throughout the brain in the corpus callosum, internal capsule, pons and bulb. In addition, generalized chromatolysis of nerve cells comparable to those described by Crile in the case of exhausted and wounded soldiers was found.

That injury to the central nervous system can occur without evidence of external wounds has been amply reflected by the literature of the World War. A few instances may be mentioned:

Cases of paraplegia — Jean Heitz, Babinski, Claude and Lhermitte, Ravaut, Froment, Guillain and Barre, Hurst. Cases of hemiplegia — Marie and Levy, Guillain, Hartzbecker, Souques, Megevand and Donnet. Hemorrhage in cerebrum and medulla — Leriche. Hemorrhage in the optic thalamus — Leri. Cases of meningeal hemorrhage, — Guillain, Leriche, Soukhanoff. Pupillary and sphincteric reflex. Disturbances and minor changes of increase of cerebrospinal fluid pressure, increase of protein, xanthochromia and hemorrhage into the subarachnoid space.

Extremes of opinion were held as to the relation of blast concussion and the neuroses. Roussy believed that it is exceptional for explosions a long way off to produce organic lesions, and Guillain that organic lesions in such cases are frequent. The former believed that the nervous troubles which result should, in the

majority of cases, be classified among the so-called hysterical disorders, an opinion concurred in by most British and American writers; the latter, Guillain, believed that "many patients are wrongly considered as pithiatric, hysterical, exaggerators or simulators." Between these extimes is the opinion of Claude that, whereas most of the cases observed in the interior are psychoneurotic, it is possible that the functional disorders are kept up by slight structural and physiological changes.

I have seen numbers of men who, subjected to the blast of nearby exploding shells, had slight signs of organic disturbances. When shortly these signs disappeared, they did not develop signs of a neurosis. Many have commented upon this. Likewise, many had been exposed to changes in pressure who did not later develop a neurosis and the order of the change in pressure seemed to have been the same as in those who developed a neurosis. The symptoms of later developing neurosis after the immediate signs of concussion have disappeared, perhaps in some while they still persisted, differed in no way from those of the neurosis which occurred when the circumstances of blast were absent, and from some of those occurring behind the battle front. Nevertheless, we do not know the character of the changes produced by blast nor their relation to an after developing neurosis.

The health of doctors living in hospitals is an important matter. It deserves careful consideration. Each medical student on graduation from his medical school should receive a card giving a complete report of his tuberculin test and roentgen examinations. Each hospital should make a rule to continue with this record by requiring chest films of its internes at six-month intervals. Large hospitals dealing with vast numbers of patients should go even further. They should require their internes and residents to have chest films at three-month intervals. If a rule of this sort were made general, tuberculosis in the resident staff would be recognized more quickly than it is at present, and unnecessary loss of time spent in treatment would be saved. Reginald Fitz, M.D., Jour. Amer. Med. Assn., Sept. 27, 1942.

In reactivation of arrested tuberculosis, pregnancy and birth are relatively unimportant when compared with work and worry and the loss of sleep caring for a colicky baby. Lewis J. Moorman, M.D., Trans. of Nat. Tuber. Assn., 1941.

A CASE OF GRANULOCYTOPENIA WITH SEVERE ANEMIA AND STAPHYLOCOCCEMIA

Where the Only Etiological Factor Was the Use of Aspirin in 40-60 Grain Doses Daily for Years

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Granulocytopenia has been noted as occurring after a number of drugs. Aspirin has been blamed for causing this condition but is certainly not a frequent causal factor. A patient recently under observation offered many diagnostic difficulties, with aspirin as the only probable causal factor.

CASE REPORT

A young woman, 21 years old, a graduate of the West Suburban Hospital Training School for Nurses was refused by the army in 1941 on account of overweight. Her basal metabolic rate at that time was -14 and small doses of thyroid and a reducing diet were prescribed with a resultant loss of weight over a years time of about 30 pounds. In June 1942 she discontinued treatment and gained 5 pounds. She later accepted a position where prophylaxis against scarlet fever and diphtheria were required. She had rather severe reactions to the first two scarlet fever injections and because she appeared pale and tired the nurse refused to give her the third on August 17 and referred her to her physician. He had a blood count made which showed 2,090,000 red cells and 500 leucocytes. No differential count was made. She was given liver extract and hospitalization was advised but she preferred to remain at home believing that rest was all she needed. On August 20 she was found to have a fever and was sent to the hospital. On August 22 a complete blood examination was made which showed 2,050,000 red cells, 950 leucocytes, 42% hemoglobin, giving a color index of 1. A differential count gave 5 polymorphonuclear leucodytes out of 50 cells counted, the balance being lymphocytes. The size and shape of the red cells were normal and there were no nucleated red cells. A blood culture was made and tests were made for typhoid and undulant fevers. An X-Ray of the chest was negative. On August 24th the patient had a violent chill followed by a temperature of 104.6 with a pulse of 120 and respirations 24. Examination for the plasmodia of malaria was negative. The urine on the same day showed specific gravity 1010, a faint trace of albumen, and on microscopic examination a few red blood corpuscles and pus cells but no casts. On August 26th a blood examination

showed 2,290,000 red cells, hemoglobin 40%, giving a color index of 0.9, and 550 leucocytes of which 23 out of 25 cells were lymphocytes and only 2 were polymorphonuclears. There were 330,000 platelets.

On going back over her previous history it was found that she had had the usual diseases of childhood and that she had had frequent headaches from the time she was in grammar school. She had taken aspirin for these headaches in 10 grain doses and had averaged 40-60 grains a day for several years. A short time before she came under observation she had a slight infection of her forearm.

The diagnosis presented considerable difficulty. The granulocytopenia was the outstanding clinical feature but the ulcerative throat lesion usually found in these patients was lacking and the degree and type of anemia was unusual and suggested some type of primary anemia. Aplastic anemia had to be considered in view of the severe anemia and leucopenia but the normal platelet count made this diagnosis unlikely Acute alymphemic leukemia was suggested by Dr. Trimmer and a sternal puncture was done by Dr. Lawrence on August 28. Smears from this were found to suggest aplastic anemia rather than acute leukemia. Clinically however the important feature was the granulocytopenia and it was felt that the treatment should be directed towards this feature.

The patient was found to belong in Group "A" and transfusions of one pint of blood were given daily after August 26. She was given 1 c.c. of liver extract a day from August 22 to 28 after which she was given 2 c.c. three times a day of Armours Extract with the idea that a less refined preparation might be better than one more refined. She was also given 10 c.c. of pentanucleotide three times a day from August 27 to Sept. 1 when it was stopped on account of local irritation about the place of injection.

The temperature curve from August 22 to 27 was that of a sepsis showing a marked up and down curve with chills occurring as a rule at the high point of the curve. These chills were followed by drenching sweats. After August 27 the temperature was more of a continued type and ranged from 104-106. The chills were less marked but the sweats continued. No growth was found on the blood cultures taken on August 25 and repeated on August 29 till September 1 when both showed a growth of staphylococcus aureus and the same was found on September 3 on a culture made on the second. All of these organisms were hemolytic. While the staphylococci are frequent contaminations it was felt that the presence of the same organism in three different cultures precluded the possibility of contamination and warranted a diagnosis of bacteremia. There was no evidence of endocarditis.

Septicemia had been considered earlier and the question raised as to whether to give one of the sulfa drugs. In view of the granulocytopenia it was thought inadvisable to give one of these remedies until after the blood culture had been reported positive. Then it was thought best to give one of these drugs and on Sept. 2, 5 grams of sulfathiozole were given intravenously and repeated once the same day and again on the next day. On September 4 five grams of sulfadiazine were given intravenously and 50,000 units of staphylococcus antitoxin were given intravenously in divided doses. The sulfa drugs were given in 1000 c.c. of normal salt solution and on September 4 the blood concentration was 2.8 mg per 100 c.c. The stools throughout were frequent, and usually liquid, dark colored and showed blood by microscopic and chemical examination. There was no purpura until late. The clotting time was 17 seconds for the patient and 20 for the control, and the clotting activity was 110% of the control. The vitamin C content of the blood was within normal limits. The blood examination remained as reported above but on September 4, the red cells were 3,190,000, the leucocytes 1100 and the hemoglobin 70%. The differential count showed 71% polymorphonuclears, 261 lymphocytes, one eosinophile and 2 monocytes. There were no pathological findings in shape size etc, and no nucleated red cells. Outside of this very moderate increase in both red and white cells there was no benefit from all of the treatment the patient was given and clinically the course was steadily downward and death occurred on Sept. 5. The clinical diagnosis was septicemia in a patient with marked granulocytopenia and severe anemia.

An autopsy was done by Dr. W. F. Mavrelis the temporary pathologist of the hospital. His chief findings were:

1. Focal and confluent areas of bronchopneumonia in all lobes.
2. Bilateral fibrinous pleuritis.
3. Subcutaneous, subepicardial, pericardial, and renal pelvis hemorrhages.
4. Moderate eccentric hypertrophy of the heart.
5. Parenchymatous degeneration of the myocardium, liver and kidneys.
6. Passive congestion of the liver and kidneys.
7. Infectious hyperplasia and passive congestion of the spleen.
8. Ulcer in the terminal portion of the ileum.
9. Hyperplasia and suppuration of the lymph nodes near the cecum.
10. Hyperplasia of the bone marrow.
11. Blood dyscrasia of some type; on the basis of the ulcerative process in the ileum this was thought to be acute leukemia but on microscopic examination the ulcer was found to be of ordinary type showing no lymphatic tissue as in leukemia. Smears

from the bone marrow showed mostly immature lymphocytes and a very few granulocytes. The final diagnosis was granulocytopenia and the ulceration in the ileum was thought to have the same relation to the process as the ulcerative process usually found in the pharynx.

The etiology of the granulocytopenia had been the subject of considerable consideration. The long continued use of aspirin in rather large doses has been considered. The reduction treatment she had undergone with very moderate doses of thyroid would hardly seem able to give rise to this picture. The scarlet fever prophylaxis would also seem not to be an important etiological factor. Aspirin has been considered to be a causal factor and seems to be the only possible factor in this patient.

SUMMARY

A young woman came under observation with a severe anemia and particularly granulocytopenia, with a staphylococcic bacteremia. In spite of the treatment usually given these patients she succumbed and the diagnosis was confirmed by autopsy. There was no ulceration in the pharynx but there was an ulcer in the terminal ileum similar in type. There was also a severe anemia resembling a primary anemia but showing a normal platelet count. The only etiological factor was aspirin in 40-60 grain daily dosage over a period of years.

PASTEURIZATION OF ALL DAIRY PRODUCTS ESSENTIAL IN CONTROL OF BRUCELLOSIS

Careful pasteurization of all dairy products is an essential safeguard against milk borne brucellosis (Malta or undulant fever), it is pointed out in *The Journal of the American Medical Association* for January 30 in a report on a milk borne epidemic of the disease in Marcus, Iowa. The report is presented by I. H. Borts, M.D., Iowa City; D. M. Harris, M.D., Le Mars, M. F. Joynt, M.D., Marcus; J. R. Jennings, B.A., and Carl F. Jordan, M.D., Des Moines.

From their findings the investigators also advise that hogs should not be permitted to run on the same lot with dairy cows and that prevention of the occurrence of brucellosis in human beings requires a continuing program and effective measure for the eradication of the disease among farm animals. The epidemic at Marcus, involving 77 persons, was caused by a strain of the organism causing brucellosis which was traced to a raw milk supply. It was found that hogs had been allowed to mingle freely in the same pasture with the dairy cows.

CONCERNING THE ACCOMMODATION BEFORE AND AFTER HEAD INJURY

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In a previous communication seventy-two cases of head injury were reported.[1] Study of that series tended to prove that the difficulties in reading and the headaches of which these patients so frequently complain, were not due to a loss of accommodation, for sixty-five per cent of the patients in that first group had an accommodative power within normal limits as defined by Duane.[2] Automobile accidents having become more common,[3] many patients previously examined have sustained severe head injury and a comparison between the accommodative power and muscle balance before and after head injury can be made in such instances. A review of these later cases demonstrates again that the loss of ability to read with comfort is not due to diminished accommodative power, muscle imbalance or poor vision,[4] but rather to disturbance in "the organization of the function of reading" as suggested by Monroe.[5]

The origin, development, and complexities of this "organization" in contrast to and in relation to the "function of reading" itself are better appreciated with a further perusal of the writings of Duane,[6] Treacher Collins,[7] and Edward Jackson.[8] This "organization of the function of reading" embodying as it does visual acuity, binocular vision, perfect muscle balance, memory and interpretation, necessitated the greater production of nerve cells, coordinating fibres and nerve centers.[7] The development of this synchronization paralleled the increase in the number and the size of the cerebral convolutions and being late in appearance it is more prone to variation and defect with an attendant susceptibility to injury and disease than the so-called embryologically older structures and functions.[4]

It has long been known, but not recognized generally, that skull fracture of itself is not as important as is the type and the extent of brain tissue injury. Patients' statements as to the state of unconsciousness following head

*Presented before the Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Springfield, May 19, 1942.

injury are not reliable, nor are many radiographs of the skull as to fracture. Experimental work and now practical experience tend to demonstrate[9] that patients may remain conscious despite anemia of brain tissue from hemorrhage due to loss of an extremity together with serious injury to cerebral tissue. Loss of consciousness in head injury results from minute changes in the nerve cells of brain tissue due to traumatic stimulation of these cells.[9]

During the acute stages of head injury the patient should be left to the neurosurgeon. Only at such a time as he may decide that the patient does not need his observation as to the ocular signs of the progress of the results of the injury should we be allowed to interfere. Our dilation of the pupils masks one of the most important signals of changing cerebral conditions and should not be resorted to until pupillary reactions are of no further diagnostic importance. When the patient is up and about then only may we study the action of the extraocular muscles and the pupillary reactions to light, accommodation and mydriatics. Only then is it proper for us to record the central vision, peripheral fields, refraction and accommodation and to note the condition of the optic discs. At all other times our investigations should be carried on only upon the request and consent of the neurosurgeon. Later in a measure we may aid in determining the extent of the disability, correcting in part some of the disfunction, and in waiting our turn not interfere with mydriatics nor manipulations in the daily or even hourly observations by the neurosurgeon which are so essential to the welfare of the patient in many of these serious injuries.

It has been my experience that most tables of accommodation indicate a maximum amount too high for children and too low for adults, and a minimum amount of accommodative ability too high for children and often too low for adults. Taking Duane's[2] table, however, as a guide and standard, and with emmetropia established in the patients, in this series of fifty-seven examined before and after accident, thirty-eight had an accommodation within normal limits before and after head injury. In this group all were over twenty years of age. Of the fifty-seven, sixteen had a subnormal accommodation before and after accident, and of these, ten were twenty years old or less, five were twenty to thirty years old, and one was forty. Only one patient (fifty-one years old) had a normal accommodation before and subnormal after injury. A man thirty-five years old had an accommodation within normal limits following head injury but had had at many previous examinations a subnormal amount. A lady, forty-eight years old at the time of accident, had an accommodation below normal in the right eye and within normal limits in the left eye but in the lower brackets for her age following severe head injury. She had had a poor accommodation when examined on many previous occasions always unequal in the two eyes and lower in the left. When examined two years later, and for the second time following the accident, the accommodation was equal in the two eyes and within normal limits, but reading was not comfortable.

TABLE I

The Accommodation Before and After Head Injury	
Accommodation normal before and after injury	38
All over twenty years old.	
Accommodation subnormal before and after injury	16
Ten twenty years old or less.	
Five, twenty to thirty years old.	
One, forty years old.	
Accommodation normal before and subnormal after accident	1
Accommodation subnormal before and normal after accident	1
Accommodation unequal	1

TABLE II

The Muscle Balance Before and After Head Injury	
Esophoria before and after accident	28 cases
Esophoria before and exophoria after accident	4 cases
Esophoria before and orthophoria after accident	2 cases
Exophoria before and after accident	18 cases
Exophoria before and esophoria after accident	2 cases
Exophoria before and orthophoria after accident	0 cases
Orthophoria before and after accident	1 case
Orthophoria before and esophoria after accident	1 case
Orthophoria before and exophoria after accident	1 case

The muscle balance at the distance was recorded before and after the accident. Esophoria was found in twenty-eight patients and exophoria in eighteen. It is true that in a large series of cases examined often and observed over a long period of time where no injury was sustained, a most significant fact noted was not that a muscle balance may remain unchanged or increase or decrease, but that it had changed into some other combination. In such a series of over seven hundred patients where cerebral traumotism had not been sustained, there were no

TABLE III

Changes in The Muscle Balance Not Associated With Head Injury

No change, an increase or decrease	155
Change to exophoria and esophoria with or without hyperphoria and to simple hyperphoria	586

changes, an increase or decrease in one hundred and fifty-five cases, while there had been a change to exophoria and esophoria with or without hyperphoria and to simple hyperphoria in five hundred and eighty-six cases. This large group would tend to demonstrate that changes in the phorias following head injury may be discounted as long as they remain phorias even if changed in amount or character and do not become tropias.

CONCLUSION

In a group of fifty seven patients examined before and after head injuries of various degrees, there were no marked changes in the central vision but those which could be accounted for by other causes, there were no marked peripheral field changes or annoying scotomata, the accommodative power had not changed unduly on an elapsed time basis, there were no unusual changes in the muscle balance and no psychoses, yet the majority of the patients complained of headache, sensitivity to noises, and above all, to an inability to read with comfort for a reasonable length of time.[10]

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DISCUSSION

Dr. Thomas D. Allen, (Chicago): I think it is a very fine thing to have this subject brought up. It seems to me that it is just as important to have negative findings brought out clearly as it is to have positive findings because we must form our judment about a case and its management from negative findings as well as from positive findings. If we know the accommodation is not particularly affected by an injury that we would think naturally would affect accommodation, we should know why it is not affected.

I want to thank Dr. Wescott for carrying on the reputation his father had; he was for many years known as the most careful refractionist in Chicago. I just asked Virgil if his father was as keen about taking the accommodative near point as was Duane. I worked with Duane for some time and I know how very assiduous he was in examining every patient. Before refraction with mydriatic, he would very carefully do a manifest refraction and measure the accommodation of each eye alone and of both eyes together. After the drops were put in, at ten minute intervals, he would measure the accommodation again; when the difference between the near point and the far point of accommodation was reduced to a measurable half diopter he could proceed with the trial case examination. He would then put on a +1.00 sphere and send the patient into the dark room and for us to check him.

I would like to ask Dr. Wescott about the one case in which he said the accommodation was apparently affected after injury, possibly by the injury. Was the iris examined with the slitlamp carefully, to see if there was any injury to iris tissue, particularly the pupillary margin? Of course we cannot see the ciliary body, and the iris itself takes very little part in the

actual accommodative process, but it might be possible that the sphincter muscle was injured. If it was not apparently injured by the trauma, what, in your opinion, would be the cause of the loss of accommodation in this one particular patient?

I think it is very valuable that we have the result of the tremendous experience the Wescotts have had in the subject of refraction.

Dr. Louis Bothman, Chicago: I would like to ask Dr. Wescott if he found that the accommodation was in any way responsible for the difficulty in reading and the headaches. To what does he attribute the difficulty in reading? I was interested in this, in addition to the accommodation, since that apparently is not the cause.

Dr. Gail Soper, Evanston: I wish Dr. Wescott would tell us what, in general, he finds has happened to accommodation after an acute illness, when the resistance is low. How much difference is there in accommodation during the next several months?

Dr. Virgil Wescott, Chicago (closing): I am grateful for your discussion of the paper. The one patient 51 years of age who had a normal accommodation before injury and a subnormal accommodation after injury has never been a well lady. She has had many illnesses during her life. The only thing about her iris which I noted was that the pupils were small (contrary to expectation), reacted and dilated well and that there was no evidence of a break in the root or the margin.

In answer to Dr. Bothman, I believe that the difficulty these patients have is not in the disturbance of the function of reading itself. They can read but not for any length of time. I believe that the elements which make up the organization of the function of reading in contradistinction to the function itself are at fault.

In answer to Dr. Soper, when we had a small epidemic of influenza about five years ago I noticed that nearly every patient who came in complaining of difficulty in reading had just recovered from influenza and all had a poorly sustained accommodation. At the end of six weeks they were again able to read with comfort.

Dr. Louis Bothman, Chicago: In connection with Dr. Soper's question I should like to call attention to an observation I have made over a period of years in connection with debilitating illness and early presbyopia. I have seen three cases in which complete refraction under atropine gave the full correction, but the patients required a +200 add for reading. These three cases all had pulmonary tuberculosis. Early presbyopia does occur with pulmonary tuberculosis. This fact, as far as I can learn has not been mentioned before.

PATHOLOGICAL FINDINGS IN EYES ENUCLEATED FOR GLAUCOMA DUE TO SARCOMA OF THE UVEA

LOUIS BOTHMAN, M.D.
CHICAGO

Among 40 eyes with sarcoma of the uvea, there were four in which sarcoma was not suspected when the eyes were removed.

In such eyes, which are most often removed because they are blind and painful, the anterior segment pathology is such that a view of the interior of the eye is not possible or is too blurred for careful examination. Two of the four eyes in this group were operated on to reduce tension in an effort to save the globe. Several operations for this purpose have been advised in the past 10 years.

I think that the finding of sarcomas in such blind eyes offers an object lesson to all of us; hence this presentation.

These eyes should serve as a warning for us to remove blind, painful eyes, when no study of their interior is possible, unless the pathogenesis is known for certain. If one has watched an eye with a central vein thrombosis gradually become blind and painful, it is safe to attempt a detension operation to save the globe. If nothing is known about such an eye — it should be enucleated.

CASE I

A male, aged 28 years, was kicked in the head by a horse, on April 30, 1929, and blinded in his right eye, which was painful. When first seen by Dr. Lyman Copps on May 8, 1929, there was a deep mixed injection, edema of the cornea, swollen iris, numerous posterior synechiae, large ones at 11:00 and 5:00 o'clock, and a few keratitic precipitates. The fundus could not be seen because of a flocculent precipitate in the pupillary space and a swollen lens. There was only perception of light and a tension of 35 mm. of Hg. The eye was enucleated on May 15, 1929.

Examination of the serially sectioned globe revealed the presence of a tumor. The tumor lay in the posterior temporal quadrant. It arose in the choroid 2.5 mm. temporally from the optic nerve and extended temporally for 12 mm., vertically 17.6 mm., and into the vitreous for 18 mm. It was lobulated, being divided roughly into a horizontal oval portion and a

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globular portion. It was very dark brown and composed chiefly of round cells and was poorly vascularized. The retina was completely detached, was atrophic and had granular pigment on its posterior surface in that portion nearest the tumor. The choroid adjacent to the tumor had dense, round cell infiltration and a much more diffuse infiltration distant from the tumor. The sclera had not been invaded. The optic nerve was atrophic. There was a moderate atrophy of the retina with ectropion of its pigment on the temporal side. There were small posterior synechiae and an equatorial cataract. There were also anterior root synechiae in most sections. The patient was living and well on January 9, 1941.

CASE II

A female, aged 28 years, was first seen on February 23, 1938, by Dr. Lyman Copps, complaining of discomfort in her left eye for four days, and severe pain for two days. At that time the eye was blind. The pain became more severe the following day accompanied by emesis which persisted.

Examination revealed a darker left iris, very marked injection with a subconjunctival hemorrhage in both nasal quadrants. The sclera in the areas between 10:00 and 2:30 o'clock and 4:00 and 5:30 o'clock was darkly discolored. The corneal epithelium was edematous. There were no keratitic precipitates. The aqueous was clouded. The pupil was 3.5 mm. There was a grayish reflex from the cavum oculi. No details could be seen. Transillumination was negative. There was no perception of light. Tension was 67 mm. of Hg. The patient had a small hemangioma on the left cheek near the eye and many pigmented moles on the body.

On 2/24/38 a paracentesis of the anterior chamber was done. The following day there was less pain and the chamber was reopened with a spatula and 30 R exposure of x-ray was given. The tension was 72 mm. of Hg. The patient was more comfortable for a few days; but on March 2, 1938, the tension was 67 mm. of Hg., there was severe injection, anterior synechia at 9:00 o'clock, and a shallow anterior chamber. The eye was enucleated and a tumor was found The patient was living and well on December 11, 1941.

After fixation and washing a superior calotte was removed. About 4 mm. from the limbus there was a tumor lying against the choroid and adjacent to the optic nerve above, slightly more nasally than temporally, and measuring 11 x 7 mm. The tumor in its greatest extent measured 12.3 mm. vertically, 12.5 mm. horizontally, and extended into the vitreous for 11.5 mm. That part nearest the choroid contained many pigmented cells, but the major portion was unpigmented, richly vascularized round cell sarcoma, containing several areas of necrosis. There was hemorrhage in the choroid adjacent to the tumor, there were small hemorrhages between the choroidal tumor and sclera, smaller ones on the surface of the tumor, and larger ones beneath the detached retina on the nasal and temporal sides. The retina was completely detached and atrophic. There were three antero-posterior folds, two large ones, and one small one. The optic nerve and its sheaths were free from involvement and no cells were seen perforating the sclera. The choroid, ciliary body, and especially the iris, were very darkly pigmented (almost black). Neither of the latter were invaded by the tumor. There were several localized posterior synechiae; anterior synechiae on the nasal side below, and marked sclerosis of the pectinate ligament on both sides below. The anterior chamber was deep in the upper one-half, and contained exudate and many granular pigmented cells which were near or on the surface of the iris. There was an unhealed corneal perforation from the anterior chamber puncture.

CASE III

A male, aged 59 years, was first seen by Dr. S. A. Berke on January 31, 1939, when he complained of poor vision of his left eye for three months. There was no pain or injection.

Examination revealed a balloon-like detachment of the retina in the lower nasal quadrant. No hole was found. Transillumination was negative. An operation for detachment was advised but none was done. He returned in June 1939, complaining of severe pain and redness of the eye which was blind.

Examination revealed a marked ciliary injection, hazy cornea, opaque lens, and a tension of 70 mm. of Hg. An Elliott trephine operation was done in an attempt to reduce tension and to relieve pain. One week later the pain was severe, and an enucleation was done in December 1939. The patient succumbed to a heart attack in August 1940.

The globe was opened immediately after enucleation, and divided into two portions. The tumor was found in the lower nasal quadrant, in the anterior one-half of the globe.

This was a mixed, round and spindle cell sarcoma (chiefly round cells.) There was moderate vascularization. The tumor arose from the choroid just posterior to the plain part of the ciliary body. That portion in the choroid was very dark brown, while the main globular portion contained microscopic pigment. The tumor extended posteriorly 19 mm. in the choroid, was 13.1 mm. in its vertical extent and protruded for 12 mm. into the vitreous cavity. Its convex surface contained granular fragmented red blood cells. There was a single 2x4 mm. area of necrosis near its center.

The iris contained a small brownish discoloration on its nasal side with tumor cells like that of the principal lesion. No connection between this and the main tumor was demonstrated. There were localized areas of round cells in the iris and fewer in the choroid.

An iris coloboma (operative) was seen above and anterior root synechiae below. There was much

pigment in the Spaces of Fontana and on the posterior cornea in the angles. The pectinate ligament was sclerosed. There were many erythrocytes on and in the iris.

The lens was cataractous and fragmented (artefact from hemisection of the globe). There were localized posterior synechiae. The retina was detached, cystic, and atrophic. The optic nerve was atrophic and only slightly cupped. There were no tumor cells in the sclera or the emissary vessels.

CASE IV

A female, aged 53, a patient of Dr. William Grove, complained of gradual loss of her left vision over two years, during which time she had attacks of left-sided headache. Five months previously she had had an operation to reduce the tension. General examination had been negative. The left cornea was opaque. There was moderate injection. At the superior limbus was a scar from a trephine operation which had closed. The fundus could not be seen because of an opaque lens. The tension was plus 3. The eye was enucleated on February 16, 1939. The patient had not been seen since leaving the hospital.

Study of the sectioned globe revealed that there was a sarcoma arising from the nasal ciliary body. The choroid was involved in a darkly pigmented, flat lesion extending from the ciliary body to within 2 mm. of the optic nerve. From this flat portion was a sparsely pigmented tumor measuring 6 mm. anteroposteriorly, 5.8 mm. vertically, and extending 6 mm. into the vitreous.

The spherical tumor was chiefly of small spindle cells, contained only linear granular pigment as irregular lines, and was poorly vascularized. The ciliary body in the region of the tumor was destroyed. There was a marked round cell infiltration in the choroid and iris adjacent to the tumor. The sclera was not invaded. There was no necrosis or hemorrhage in the tumor. The tumor pressed against the small cataractous lens whose anterior surface was pushed against the posterior cornea.

The retina was completely detached, but this was a flat detachment of only a few mm. The optic nerve was atrophic.

The iris had a complete coloboma above and was atrophic throughout. There were anterior root synechiae in most sections. The atrophic iris at the chamber angles was so distorted that the pectinate ligament or Schlemm's Canal could not be identified.

At the site of an old healed corneal incision there was much granular dark brown pigment. The cornea, especially in its anterior one-half, was involved with dense old scars and many small blood vessels. Bowman's membrane was thrown into large folds.

Summary: — In all of the four cases presented, sarcoma of the uvea was found in eyes enucleated because they were blind and painful. The clinical diagnosis in all cases was secondary glaucoma. In none of them could the interior of the eye be studied because of the opaque cornea and lens. In two cases operations had been done in an attempt to reduce the tension and save the globe.

CONCLUSION

No detension operation to save a blind, painful eye should be done in any case in which the etiology of the secondary glaucoma is not definitely known. Such operations may postpone the enucleation of an eye which may contain a sarcoma.

Only in cases of secondary glaucoma of known (non-malignant) etiology, such as a central vein thrombosis, are such operations as iridectomy ab externo, vitreous fistula, or cyclo-diathermy, justified in an effort to save the globe.

In all cases of secondary glaucoma with uncertain or questionable etiology, enucleation should be the operation of choice.

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VISION TESTING IN ILLINOIS

AUDREY M. HAYDEN

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CHICAGO

In order to understand the Vision Testing Project which has been carried forward in Illinois during the past six years, under the joint aegis of the WPA and the Illinois Society for the Prevention of Blindness, it is necessary first to understand just what type of agency the Illinois Society for the Prevention of Blindness is and just what sort of agency the WPA is.

The Illinois Society for the Prevention of Blindness was organized in 1916 as a temporary agency, which would have for its main purpose the demonstration to public agencies of the methods by which blindness might be prevented and then to stay on the job and see that they incorporated these methods into their programs without lowering of standards and without political interference.

The WPA was organized by the Federal Government in 1935 to substitute work relief for

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the dole. It was supposed to tap a large reservoir of unskilled workers, some of them in the lower white collar groups. All projects were to be sponsored by public agencies, plus co-sponsorship by a private agency. Therefore, if a WPA project has not been well administered, it is the fault of the sponsoring agency and not of the concept of WPA.

Before 1936 the Illinois Society had been lucky if in any given year they were able to test the vision of 17,000 school children and they were also lucky if they were able to get 1,200 children fitted with glasses during the year.

In 1935, when the WPA was very new, we co-sponsored a project in our Trachoma Clinics which covered work for laundresses, janitors and nurses' aides. This worked out so satisfactorily that in December of 1935 the WPA approached us and asked if we would co-sponsor a vision testing project in the public schools of Chicago.

We said "Yes" under the following conditions:

1. That we would have the choice of staff.
2. That we would be responsible for the training of staff.
3. That we would have the direct supervision of the staff.
4. That we would be responsible for the setting up of reports.
5. That there should be connected with the testing program a correction program.

This last provision we felt was the most important, because the Illinois Society for the Prevention of Blindness has always objected very strongly to the discovering of defects in school children where no plan was made for correction of the same.

The WPA was at first undecided about the correction program because they were not allowed to make home calls, but we finally talked them into it.

At the beginning we set up the following staff:

1. A group of testers.
2. A group of recorders.
3. Office help to include typists and filing clerks.
4. One uncertified supervisor to work closely with us.

Training. — Assisting by the ophthalmologists of Chicago a week's training course at each school vacation period was arranged for. This course included:

1. Anatomy of the eye.
2. Diseases of the eye as they occur in school children.
3. Refractive errors.
4. Squint.
5. Routine for giving vision tests.
6. Public relations with the schools.

This course ended in a written test on which the workers were graded and those who did not qualify were eliminated. The workers were trained to give the regular Snellen Chart examination.

A certain procedure was worked out for the workers:

1. Arrangements were made with the schools. A copy of a list of observable behaviors was handed to all the teachers.
2. A room that had sufficient light and at least 20 feet for the testing was secured.
3. Illinois Society record blanks were used.
4. A system for routing the children to and from the testing room was worked out.
5. The work sheets, showing the defects were grouped into 1X, 2X and 3X cases. (1X cases are those from 20/30 to 20/50; 2X are those from 20/50 to 20/70; 3X are those having 20/70 or below.)
6. Postal cards were sent to the parents of all children showing an eye defect, with the recommendation that they take their children to someone who could make a complete examination of their eyes.
7. Individual record cards were made on every single child having defective vision. These cards show the name of the child, his address, school to which he goes, the degree of the defect, the vision without glasses and the vision after new glasses were fitted, together with the name of the doctor who did the work on the case.

When we started our correction program we approached the Chicago Ophthalmological and asked the doctors if they would take cases in their office at $2, $3, and $5, in order to swing some of the work away from the clinics. Seventy-five doctors registered with us to do this work.

At the end of the first year we took eight of the best qualified staff members and trained them for home calls for the 2X and 3X cases. In order to get permission to do this we had to take a trip to Washington and make a special plea through Dr. Rice to the WPA Board there.

In 1938 the project was extended to cover the whole state and to include hearing tests. This part of the project has always been more difficult to administer than the Chicago one, because there were fewer clinic facilities, the rural school population is smaller and the correction programs were very difficult to put into operation. In some school districts the local nurse did not want the WPA to do the work, but did not get around to doing it herself.

It may be interesting to note that since 1936, vision tests have been given to 1,466,510 school children in Illinois. Of this number, 77,497 school children were found to have defective vision and in this period 52,807 children had their vision corrected. It also might be interesting to know where the children went to have their vision corrected. From March 1, 1941 to March 1, 1942 we have records of 15,007 corrections. Of this number 5,427 went to ophthalmologists; 2,949 went to clinics and 6,631 went to optometrists.

True to its promise when it started, WPA has cut its curve with the rising employment curve. July 1, 1941 the WPA took a 50% cut and another 50% cut is anticipated for July 1, 1942. These services will not be available for vision surveys in the future where correction programs with documented reports are not guaranteed and where written monthly reports of such corrections are not made.

We think we have demonstrated in Illinois the feasability of such a project. We know of no other State that can show the wealth of figures in detail that this project shows. We are very, very anxious to have the doctors interested in it and active in it.

DISCUSSION

Dr. C. C. Bunch, Evanston: It is with a great deal of satisfaction that I have heard Miss Hayden's report this morning. I know nothing about eyes, except that I use my own and wear glasses. I am interested chiefly in the second project she mentioned, that of the hearing test program which is being conducted in the state. I knew nothing about this last summer when I moved to Illinois, but I found there was a project whereby hearing tests were being conducted under the WPA. As Miss Hayden said, the material collected in determining the percentage of visual defects does not amount to much unless something is done about it. The same thing applies to hearing tests. The matter of determining how many children there are with defective hearing amounts to little or nothing, unless something is done about it.

Last year the State of Illinois passed a law requiring hearing tests to be done each year on school children. There are similar laws in some other states. This does not in itself do any particular good unless there is some sort of organization which can take care of the defect when it is found. Miss Hayden's organization, which has been active for a number of years and has had the advantage of the experiences over these years, has been of very significant benefit so far as children and future citizens are concerned, and shall I say also, so far as the finances of ophthalmologists are concerned. This is a dollar and cents program, and should be considered from that standpoint as well as from the humanitarian standpoint. These children are our potential citizens. If they have defects they are likely to be lower in skill, lower in earning power, and with the present crisis we are in we must have all the citizens at the highest possible state of health and ability.

It seems to me that such a program must logically be in the hands of those who understand it. With the eyes, that puts it directly in the lap of the ophthalmologists. The same thing is true of hearing tests. If anything good is going to come of this, it is in the lap of the otologists of the state. As I understand it, most men downstate do eye, ear, nose and throat work, rather than specializing in one, so it looks as if the same group will take care of both problems.

I do not know whether you know that in the WPA project testing hearing in New York, 5 to 7 per cent were found to have auditory defects. On the basis of this, the New York legislature passed laws requiring hearing tests throughout the state. Obviously, they will be of minimum value unless something is done about it. Fowler says that approximately 70 per cent of such children can be corrected; Newhart of Minneapolis puts the percentage at nearly 50 percent. If 50 per cent of these children can be benefitted early, we are going to help just that much toward the value of our citizens. It is also interesting to read the reports of the draft boards, that about 5 per cent of young men are rejected because of defective hearing. I have a slide which was given me by the people in charge of the hearing program, and it was astonishing to me that nothing more has been done so far as correction of these hearing defects is concerned.

The WPA is organized on the basis of a more or less temporary plan, and it seems to me that hearing defects are always going to be with us in spite of all the new drugs and other things. The medical society can do nothing more to help than to give active cooperation, both as to visual and hearing defects.

Dr. Harry Gradle, Chicago: The implications involved in this work are far greater than appear on the surface. Late in the thirties I was asked to report to Washington on this work. It attracted the government officials as being the basis for similar work throughout the country, and at a conference we were informed that the work done in this State would be a model. At that time they were still thinking in terms of easy money and large sums, and they set the sum of $25,000,000 a year as necessary to carry it on throughout the country.

The problems involved are great but the difficulties could be overcome. They are watching our downstate efforts in Georgia and Texas. The plans are still available in Washington, and it is the purpose of the Government to carry on this visual correction program, eventually.

In our work in rehabilitation of selective service men we found over 43 per cent between the ages of 21 and 35 to have defects that rejected them from service; about 50 per cent of that number, correctible without too great difficulty. Therefore, under the plan as worked out, after the emergency there will be a rehabilitation program. The unemployable are for the most part unemployable because of physical defects arising in childhood or early youth. The correction of defects will reduce unemployability to the vanishing point and, consequently, will be of enormous ecnomic value to the country . So this program of survey, when followed by a correction program, fits into the rehabilitation program when such correction can be made.

Dr. G. H. Mundt, Chicago: I have talked to Miss Hayden and to Dr. Bunch and various other people about these testing programs in the State, and I think Miss Hayden would like to have the approval of the medical society in the State, and Dr. Bunch is also interested in that. If we can get some type of resolution to be passed by this Section in the business meeting, I think it would be well to consider the advisability of that. I wish Miss Hayden would tell us why she feels she needs the approval of medicine.

Miss Audrey Hayden: I do not like to go ahead with this project without medical approval. That was the reason I came here to explain it to you. We would like to have something like the recommendation which the Section gave in 1936 on the Snellen chart. It helps us greatly if the doctors understand the correction problem, and it is very important to the Illinois Society for the Prevention of Blindness to have medical endorsement.

In using the Snellen chart we get away from the implication of being technicians. We feel that the simplest method of making tests is the best. We have sometimes had arguments with the school people, in regard to the Betz-Telibinocular and when there is something definite to show from the medical profession, that ends the argument. If we could say that the Illinois State Medical Society endorsed this project it would help a great deal.

Dr. H. L. Ford, Champaign: I think we are under definite obligation to Miss Hayden for presenting this subject and that we should offer our unqualified approval. I move that we go on record as offering our approval of this work.

Dr. G. H. Mundt, Chicago: I think we should have a little more in the body of that motion, because it is a difficult thing to give a flat approval of Miss Hayden's talk. I think motion should be made to cover our approval of the program of hearing and vision tests. I believe a committee should be appointed to draft such a motion.

UNUSUAL CASE OF BALANTIDIUM COLI COLITIS

I. Radeff, M.D.
KIRKLAND

This case is of interest on account of its rarity and difficult to find the parasites.

The patient, a white male, 64 years of age, farmer by occupation, on December 17, 1941 complained of frequency, nocturia and difficulty in starting the urine, dyspnea on exertion. These symptoms began one year ago and gradually have become worse.

Family history negative. No previous illness.

Physical findings normal except heart enlarged to the left, rhythm regular; urine negative except for trace of albumen and about 1½ ounces residual urine; large prostate not fixed

He refused surgical interference and was given 25 mg. testosteronepropionate intramuscularly. Six days later after the first injection he developed diarrhea. The temperature was normal. The abdomen was distended but there was no localized tenderness or rigidity. There was some nausea and abdominal cramps. I did not see him until about a month later and found he had had diarrhea almost continually, looked anemic and had lost about 10 pounds in weight. He said the stool was black, mixed with red blood and mucus.

Proctoscopic examination showed two small ulcers about 15 cm. from the anus. He was given Tr. Opii, aluminum hydroxid and kaolin enemas. After this the diarrhea improved, but two weeks later there was another recurrence with blood in the stool. He was put on sulfaguanidine without result. On February 10 the x-ray of the bowels showed nothing abnormal; R.B.C. 3,400,000, W.B.C. 7,600. The fecal examination showed occult blood, no ova, no cyst of ameba, no bacillary dysentery, no mucus.

On February 16, 1942 prostatic resection was done. Three days later diarrhea recurred. Stool examination at this time revealed millions of balantidium coli, very motile.

The literature shows that the balantidium coli is a common infection in swine, easily transmitted to men. Stone and Musgrave reported epidemics of it in the Philippine Islands and among the apes in the tropics.

In the treatment four points were to be considered: 1. The parasites bury themselves in the submucous tisses so this one had to be attacked through the blood. For this purpose emetin was given. 2. Those in the intestinal cavity were attacked by diodoquin. 3. Some of the parasites that were in the crevices of the mucosa and in the cebulum were treated with sodium bicarbonate enema to dissolve the mucus and then followed by quinine enema, 1:1000, 2,000 c. c. 4. The general condition of the patient to be improved.

He responded promptly to this treatment and in 24 hours the diarrhea was checked.

On March 9, 1942 he had another recurrence of diarrhea and a temperature of 103. Fecal examination on several occasions did not reveal any parasites or ova. He was put on the same treatment and the diarrhea subsided. There has been no recurrence since.

This shows that one, sometimes numerous examinations of the feces for balantidium coli, even under ideal conditions is not sufficient to find the parasites or the ova.

Doctor's Son: "Papa, what is middle age?"

Doctor: "It's the time of your life, son, when you would rather not have a good time than recover from it."

SIMPLE FOREIGN BODY REMOVAL

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The subject of discussion is probably a timely one now that we are at war. Recently, certain highly specific detailed methods, with which you are undoubtedly familiar, have been reviewed by the Army and a carefully evolved procedure has been planned for use in the field. With these, at the moment, I am not too much concerned although as I shall try to show later, the application of the particular method to be described seems to me highly desirable both in the field and at the base hospital. I am mainly concerned at the present time with the removal of the foreign body in general surgical practice and the part the radiologist should play in assisting the surgeon.

In reviewing the subject, one is rather amazed at the large number of papers in the literature. One almost gets the impression that, much as doubt is cast on the efficiency of any individual drug when a large number of drugs is used in the treatment of a single condition, any one of the methods used in removal of foreign bodies is not as effective as one might gather.

All of the methods based on the use of mathematical computation to determine the depth of a foreign body fail to a greater or lesser degree to take into account the practical aspects of surgical removal.

A review of the methods of foreign body removal is not the purpose of this paper. I should like to call attention, however, to a paper by Arens in 1925 which describes the roentgenoscopic screen and essentially the method to be discussed in this paper.

One may ask, why the repetition? As is so often the case a method of treatment is frequently lost sight of among the mass of literature and does not command the attention it deserves. One may be forgiven the reminding of the profession that then and now this method was and

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is in our opinion the simplest method to be applied. It has stood the test of years and little if anything can be added that will improve it.

It is generally the practice when a patient comes to the surgeon with the history of a foreign body entering the skin or mucous membrane that he will palpate for the foreign body, or if an opening is present, he will probe for it. If this fails to elicit evidence, he has one of two choices. He will explore immediately at the site of original entry or better still, he will arrange to obtain roentgen films or fluoroscopy so that he will get an idea as to the position of the foreign body in relation to surrounding structures, and will then remove the patient to the operating room and explore.

While surgical removal without roentgen aid seems simple enough, such is not generally the case. Of course, if one is dealing with a massive foreign body, the problem is not difficult. On the other hand, if the body is small, we have known of capable men searching for a period of one hour or more without success in so small a part as the hand, even when films had been obtained previously.

Let me hasten to explain that it is not as ridiculous as it sounds. It is conceivable that, given a small foreign body such as a fragment of a hypo needle, the incision may be made over or close to the foreign body and when the skin or subcutaneous tissues are retracted, exploration would be futile if the foreign body were also tucked away under the retractor. In order to forestall criticism, even if all metal instruments are removed and a palpating finger inserted into the wound, one can conceive that the end or point of the foreign body will not lie in a plane such as to allow palpation. Again, the mere making of the incision and the separation of tissues immediately below may displace the foreign body from the predetermined position by retraction of the tissues themselves. Further, because of slight changes in the position of the part, the surgeon enters at a slightly different plane than the central ray had traversed in making the roentgenogram, with the result that he must search blindly.

The point to be made is that there may be and usually is movement of the foreign body or of the tissues containing the foreign body before or during exploration.

It should be clear, therefore, that intermittent fluoroscopy offers a constant control by indicating continuously the position of the foreign body.

Now as to the points involved:

The basic principle involved is described in the U. S. Army X-Ray Manual, second edition, in the discussion of the "nearest point method." "Palpation at a very near point will ordinarily cause much greater movement of the projectile than will palpation at a remote part of the skin surface." Correspondingly, probing with a blunt forceps will produce greatest motion of the foreign body when the tip of the forceps is closest to the foreign body.

Of immediate importance is the determination as to whether or not the foreign body can be removed with the particular method. By way of illustration, it would be dangerous to attempt removal of a foreign body deep in the lung fields, within the abdominal cavity, or in any place requiring exploration of vital structures. Removal of foreign bodies from the extremities, the chest wall, the abdominal wall, the scalp, or the neck has been accomplished with rapid ease. We have been successful in removing three broken needles from the tonsillar fossa, one from the vaginal vault, and recently one from the nasal cavity. To illustrate the simplicity in all of the latter cases, it took only five to ten minutes to remove the foreign body. In all the instances, surgeons had explored previously without success.

The simplest of equipment is to be desired. Any equipment capable of allowing fluoroscopy will be satisfactory. The only additional piece of equipment is a small fluoroscopic screen covered by lead glass and encased in a holder providing a fairly long handle. This should be so made as to permit sterilization of the screen holder end. The purpose of the handle is to permit the surgeon to work in the field with the minimum of interference. The screen need be only 3 to 4 inches in diameter, the handle up to 15 inches in length. This has been adequately described by Arens.

A simple sterile operating setup including iodine or mercurochrome, sterile linen, anesthetic agents with syringes and needles for local anesthesia, scalpels, forceps (preferably both large and mosquito types), gut and silkworm sutures should be available.

Teamwork between radiologist and surgeon is of utmost importance. Since it will be impossible for the surgeon's eyes to remain accommodated constantly, the radiologist must serve as the eyes of the team until the forceps have grasped the foreign body. This directional probing it to be guided entirely by the radiologist whose eyes are constantly kept accommodated by means of goggles which he can slip on and off his eyes between periods of fluoroscopy.

In regard to asepsis, the only point in question is the sterility of the screen-containing end of the scope since it comes in contact with the hands and instruments of the surgeon. The scope end may be wiped carefully with alcohol or antiseptic agent and wrapped in gauze or towel pack wet with antiseptic until ready for use.

The question of anesthesia is a moot one. There have been a number of papers indicating the explosion dangers of ethylene, cyclopropane, or open ether anesthesia. Local anesthesia or nitrous oxide inhalation are probably the anesthetic agents of choice.

The question of radiation injury to the patient and to the radiologist and surgeon is of greatest importance. In the usual case, the time of the removal has averaged five to ten minutes actual working time from incision or probing into the wound of entry until removal of foreign body, involving at most one to two minutes of actual fluoroscopic time. Using 85PEv, 4Ma, 1mm Al, one obtains radiation equivalent approximating 5r per minute, a relatively insignificant amount. A small cone of radiation is to be used sufficient *only* to just fill the screen of the roentgenoscope. It must be added that continual use of one team might conceivably constitute a hazard due to the possible effects of cumulative radiation depending on the number of examinations and safety of equipment.

Specific Procedure is as Follows:

1. Determine whether the foreign body lies in an accessible position and can be removed. Mark point of approach on skin. Keep part stationary.
2. Prepare skin with iodine and alcohol.
3. Administer anesthesia.
4. Open wound or make incision in skin at point of approach and insert closed tip of forceps into incision. A curved forceps is to be desired since it will keep the surgeon's hands from being exposed to direct radiation.
5. Extend the closed forceps' tip deep into the wound under fluoroscopic control until the tip, as shown by greatest motion of foreign body, is in the plane of the foreign body. This probing is directed by the roentgenologist.
6. Then, and then only, open tip of forceps and grasp foreign body. Slowly move tip of forceps in order to prove that the foreign body has been grasped. This ends fluoroscopy.
7. Continue the remainder of the procedure in bright light.

It is impossible to describe verbally the ease of removal by this method compared to the "blind" approach used by most surgeons. Once used and appreciated, no other method will suffice.

Now as regards army localization of foreign bodies, I have been very impressed by the mathematical computations and the reduction of these computations to simple factors so that a foreign body's depth can now be determined in less than one minute. It may be an important point in determining whether a case must have wide exploration, as in intra-abdominal or intra-thoracic foreign bodies, something a good fluoroscopist may be able to tell without measurement. Many of the objections which were stated before, however, still apply, namely, that between determination and attempted removal, the foreign body may or will be moved so that even if the depth determination is reduced to ten seconds, I still fail to see its use except that it serves to indicate the presence of the foreign body and its location *only at the time of localization.*

SUMMARY

A simple method of removing a foreign body by combined fluoroscopy and surgical exploration is described. This method is based on the principles of the "nearest point method" described in the U. S. Army X-Ray Manual, second edition. The method involves the use of a small hand screen which can be placed in the field of operation without contaminating the field, as described by Arens.

The civilian as well as military applicability of the method is discussed.

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DISCUSSION

Dr. Warren Furey, Chicago: This presentation of Dr. Mesirow's is, as he puts it, most timely. He certainly adequately covered the subject in which we should all be intensely interested. Needless to say, we have all had some experience, probably varied experience with the many methods employed in the removal of foreign bodies, varying probably from the precision methods to the hit-and-miss methods that a goodly number of us may practice.

The thing that strikes me most about a method such as Dr. Mesirow has presented is that it gives us, in a simple way, a method that any of us can employ to advantage in our office or in our hospitals. The thing that most of us have difficulty with, I think, is that the foreign body patient is sent to the x-ray department, and without even consulting the radiologist a routine posteroanterior and lateral projection is made, and we determine at that time that a foreign body lies in such and such a spot. The patient then leaves radiology, and we see it no further until we catch the "devil" for faulty localization, when the surgeon comes back and does not find it in that spot.

We fail to take into consideration the fact that that film may have been made in one plane, and as the hand is turned in the opposite plane to make the removal, there is muscular contraction and the small foreign body will move with the muscular contraction on changes of position.

I really think that we should commend Dr. Mesirow highly for calling our attention the procedure that is not only a simple procedure, but one that we could all use to advantage.

Dr. F. Flinn, (Decatur): Using this method, I have never failed to remove or see but one foreign body which was not removed. That was a part of a needle which was used to administer a local anesthetic in extraction of an upper molar. The dentist immediately brought the patient in, and with the surgeon we started working. We never got that needle. I think we could touch it, but we could never grasp it, it certainly moved rapidly. In taking numerous films, you could see that it moved along until the point was resting against the base of the skull, but we failed to get it.

One other very difficult experience that I had, and I knock on wood, was about ten years ago when we placed some removable platinum implants of radium in the tongue. These were prepared for us, and at the time for removal we pulled on the strings, and all came out but one. That was, of course, the one deepest in the base of the tongue. Talking about traveling, this implant ran around in that tongue like a goldfish in a bowl, and we worked and worked and worked, but eventually with one final stab we caught it and brought it out. Upon examining that implant, we found that the eye, in the center, had a very rough sharp edge, and undoubtedly with the motion of the contractions of the tongue, the action had rubbed the thread on the sharp edge until it had been cut in two, because there was no traction put on it in the meantime.

These are two very unusual experiences that I had, but I wish to commend Dr. Mesirow on his paper and assure him that in our experience this method has been very successful.

Dr. Gentz Perry (Evanston, Illinois): I want to compliment Dr. Mesirow on his fine presentation. There is one point that might make it seem that the accurate location of foreign bodies is sometimes inaccurate by the ordinary angulation methods that were used in the first war. They are much the same in the present army instruments.

If a man is fluoroscoped shortly after injury, the muscular contractions may still persist to such an extent that even with some serious injury when that patient is anesthetized with a general anesthetic, the relaxation of the muscle, granting that it is in the leg or some portion where the muscles are thick or heavy, the relaxation of the muscle after an anesthetic may change the apparent depth of that foreign body below the skin surface as much as one and sometimes even two or more centimeters. Therefore, the state of the muscle contraction is an important factor in removing these foreign bodies, especially if they are located near some important artery or nerve trunk.

That is something, of course, which the operating team and the radiologist, must become accustomed to. Those who are entering active service without that previous experience might some times make a considerable degree of mistake; that is, in the actual operative procedure. Therefore, it is well, if possible, to fluoroscope the patient after the general anesthetic has been given where the foreign body is to be removed.

Dr. Harry Olin, (Chicago): I believe that the removal and detection of foreign bodies should go through a routine that I established some years ago. I think it is very necessary first to plate all these cases. I think the removal of a foreign body without fluoroscopy and without your team work is practically a waste of time, and it subjects the patient to a lot of unnecessary procedure.

No foreign body should be removed without plating and fluoroscopy; especially important is the radiology to the surgeon. I think you can save a lot of time. I will say that in my experience, even in the very capable hands of surgeons, very good dissectors, a foreign body may take anywhere from a minute to three hours. I have had that experience, especially in the palm or in the sole of the foot. Some looked very simple. I have seen the whole palm fascia laid open,

even with fluoroscopic guide, so exceptionally you may have a lot of difficulty. However, in the main I believe, as Dr. Mesirow has stated, it is a job that may last from one to five minutes or ten minutes to the most for the average case.

Dr. Glenn J. Greenwood, Chicago: I wish to thank all of the discussants. Dr. Delph's comments and consul have been opportune. I anticipated Dr. Holinger might dwell upon some of his numerous contacts with this entity. Dr. Galloway, for a number of years, has emphasized the role posture plays in the resolution of lower respiratory tract suppuration.

Dr. John F. Delph, Chicago: It is difficult to add much to this paper, especially as far as anatomy is concerned, because Dr. Greenwood has been working on this for some two or three years in order to familiarize himself with the various spaces concerned in surgical lesions of the esophagus. I think the subject itself is very important, because anybody doing any endoscopic work is sure to run into one of those cases sooner or later.

In one of these cases I was passing the esophagoscope when the accident happened. We did not know it at the time. The patient was very cooperative and there was nothing but a little bleeding at the time, which is not unusual. She got off the table and was all right, but two days later she was back in the hospital with a fulminating type of mediastinitis. My experience in these cases have been of two types — a slowly smoldering type of inflammation where it would be very difficult to make a definite diagnosis; you feel there is some infection of the esophageal wall; the blood count and temperature are elevated; in other words, not an acute mediastinitis, although potential. In the other type I have seen cases in which the white count was 20,000 or more, the temperature higher, and the presence of marked dysphagia and toxemia, and the patient was unable to get any food down whatever.

I think from looking at the literature that nearly everybody agrees that surgery should be employed, where you are positive there is an infection in the esophageal space. There is some question about that when the case is borderline and I do not know the answer. I know this, however, that I have been a little conservative and relied on chemotherapy a great deal.

We had a patient with a foreign body present in the esophagus for five days. The blood count was above 25,000, the temperature 102 to 103 degrees. She was toxic. We gave massive doses of a sulfonamide and decided to wait, because the bone had been in for five or six days and we were afraid to remove it. After withdrawing everything by mouth for a week and using sulfanilamide, the temperature subsided and we took the bone out. We watched the blood count and temperature all the time and felt there had not been a perforation. The bone was so large and there was so much trauma that she developed a stricture. One month after removal I did an esophagoscopic examination because the x-ray showed obstruction. There was a mass of granulation tissue on the posterior wall.

I do not think we know all the answers to this problem. I think we agree if there is suppuration in these spaces they should be opened but if there is a question about it, reliance should be placed on the sulphon compounds.

Dr. H. L. Ford, Champaign: I think many cases of mediastinitis might be averted if due attention is given to the upper abscess, that is in the parapharyngeal space, with gravitation down into the deep tissues. The writer directed attention to the median raphe of tissue that separates the retropharyngeal space. A few years ago it was described by Weintraub. Babson makes a point of emphasizing an anomalous artery on the right side which is not infrequently injured in low external incisions for retropharyngeal abscess.

PRIMARY ATYPICAL PNEUMONIA; ETIOLOGY UNKNOWN

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Long before the pandemic of influenza of 1918, an acute febrile disease, a type of pneumonia, was prevalent among the military forces and was known under such names as "catarrhal fever" or "soldiers' pneumonia." No etiologic factor could be found and no specific therapy was effective. Complete recovery occurred in most cases.

Since Bowen[1], in 1935, first reported his observations on 89 cases of pneumonitis occurring among the U. S. troops stationed at Hawaii, numerous reports have appeared in the literature of a "new," acute, febrile disease, of unknown etiology, involving mainly the respiratory tract.

Although this disease is really of frequent occurrence, according to Goodrich and Bradford[2], the seeming increase of cases of this disease noted recently is probably due to the fact that it was not recognized as a distinct disease entity.

As more cases are studied and described it becomes evident that this clinical entity is a

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pneumonic process which by its manifestations is distinguishable from other types of pneumonia.

This type of pneumonia differs from pneumococcal lobar pneumonia and the usual types of lobular pneumonias in its symptomatology, course and treatment and because no causative organism could be definitely identified or cultivated from human or laboratory animal material. However, it is now generally believed, that this particular type of pneumonia is caused by a virus.[3]

Different authors attached various names to what appears to be the same disease entity, e.g.: — "Interstitial Pneumonia," "Disseminated Focal Pneumonia," "Capillary Pneumonia," "Acute Diffuse Bronchiolitis," "Acute Pneumonitis," "Atypical Bronchopneumonia," "Benign Bronchopulmonary Inflammation," "Influenzal Pneumonia," "Virus Pneumonia," "Pneumonia Variety X," "Q-Fever," etc.[3]

In a recent "Official Statement" to the Surgeon-General of the Army prepared by the Director of the Commission on Pneumonia, Board for the Investigation and Control of Influenza and other Epidemic Diseases in the U. S. Army, it was suggested that, for purposes of classification, these cases be separated from other pneumonias and designated "Primary Atypical Pneumonia; Etiology Unknown,"[4] which is correctly descriptive of the condition under discussion.

The distribution of this disease is widespread, probably global.

The seasonable distribution is variable and sporadic cases apparently occur regardless of season.

Mostly young adults, from about 21 to 30 years of age, who previously were in good health are usually affected. Adams, Green, Evans and Beach[5] have reported on 74 cases of "Acute Primary Pneumonitis" in infants with the conclusion that the peak of infectivity of this disease is the fourth and fifth week of life and premature infants appear to be most susceptible hosts of the pneumotropic virus.

There is no recognized difference between the sexes as far as susceptibility or immunity is concerned.

The general concensus is that it is transmitted by contact but is not highly communicable.[6]

The incubation period is between 7 and 26 days, as estimated by various investigators.[7]

The mode of onset is disputed. Some[7] describe it as "gradual" and "insidious," while others[8] give it as "sudden" or "abrupt."

The subjective symptoms are usually cough, headache, and fever and no objective findings guide the attending physician to a correct diagnosis. It resembles an ordinary "La Grippe," especially if patient also complains of aches in the back and legs, only in this case the patient appears more sick and the symptoms become more aggravated as the disease progesses.

The headache is severe, frontal in location and becomes agonizing during coughing spells.

The cough is dry, hacking, non-productive, or very little sputum raised, which is neither rusty nor blood-tinged. Substernal pain as well as soreness and tenderness of the abdominal muscles frequently result from the cough. Even the throat may feel sore for the first few days due to the cough.

The fever is high, 102° to 105° F, persistent and *falls by lysis* after 6 to 24 days, depending on the severity of the disease.

The respiratory rate is near normal, dyspnea rarely occurs and pleuritic pain is not present.

The pulse is regular, of good quality and its rate is only slightly increased.

The relationship of the respiratory and pulse rates, which are low, to the temperature, which is high, is characteristic of this disease.

There is also anorexia, malaise, constipation, the tongue is coated and sweating is common.

A rash may appear during the first few days, varying from a few red spots on the abdomen to a definite scarlatinaform erruption extending over the chest, abdomen and back, lasting only a few hours with no desquamation to follow. Derrick[9] states that "the absence of a characteristic rash during the first week in "Q" fever, is of importance in distinguishing this disease from urban typhus."

Epistaxis may be one of the early symptoms.

Physical examination of the chest during the first few days is completely negative and only on the fourth or fifth day of illness a slight indication of dullness on percussion and a few fleeting rales over one of the lower lobes may appear.

The examination of the heart is likewise completely negative.

Urinalysis usually shows a transient albuminuria.

Leucopenia in the early stages of the disease, is characteristic, and is usually below 8000; later it may reach 12 to 18000 w.b.c. with a relative increase in the polymorphonuclear neutrophilic leucocytes.

The sputum examination from a bacteriological standpoint does not differ from that of a healthy individual.

Blood cultures are negative.

As the disease progresses, prostration is severe and cyanosis may be present. The whole picture hardly indicates the presence of a pneumonic process which is disclosed only on the 4th or 5th day of illness by a roentgenogram of the chest. The picture will show an irregular shadow of a patchy density, usually over one of the lower lobes; its borders are not sharply defined, but appear, as if spreading, infiltrating into the normal appearing tissue above. Even at this stage of the disease, when the x-ray plate already reveals actual pulmonic involvement, the physical findings on chest examination are still not informative of the pathology present, which proves the correctness of the statement of Smiley at el.[8] That this "new acute disease of the respiratory tract has as its cardinal feature specific lesions in the lungs inaudible to the stethoscope but definite in the roentgenogram of the chest."

The course of the disease may be mild, as is true in most cases, moderately severe, or severe.[10] The difference is mostly of degree and not of kind. In mild cases the onset is more gradual, while in the severe it is more acute with all symptoms more pronounced. In mild cases the disease lasts from 6 to 9 days, in the more severe 14 to 24 days with gradual defervescence. The improvement in symptoms occurs gradually as the temperature falls by lysis.

The recovery is gradual and prolonged.

Complications rarely occur, except in severe cases in which Otitis Media, Acute Sinusitis, Mastoiditis and Empyema may develop, due to secondary invaders.

Fatal terminations have been reported[10] but they are rare in adults. In children and young adolescents, on the other hand, the death rate had been reported as high as 20% and in premature infants as high as 82%.[11 12]

The etiologic factor remaining unknown the diagnosis is uncertain and the differentiation is made by exclusion.

The following diseases must be considered in the differential dagnosis: 1. Influenza A and B — onset sudden, presence of coryza, sore throat and repeated chills; relationship of respiratory and pulse rates to temperature is in proper proportion. 2. Psittacosis Pneumonia — absence of history of exposure to birds (parrots); compliment fixation test for Psittacosis — negative. 3. Typhoid and Paratyphoid fever — absence of diarrhea; negative specific tests. 4. Pulmonary Tuberculosis — negative sputum test for TB bacilli. 5. Pneumococcal Pneumonia — negative sputum test for virulent pneumococci; sudden onset; rusty sputum; pleural pain; rapid pulse and respiration; positive chest findings on physical examination; definite x-ray findings; response to specific and chemotherapy; termination by crisis. 6. Bronchopneumonia. 7. Undulent Fever. 8. Meningopneumonitis. 9. Ricketsias. 10. Pulmonary Infarction.

The treatment of atypical pneumonia is purely symptomatic and supportive, since no specific measures are known and the sulfa drugs have absolutely no effect on the course or progress of this disease, which is another distinguishing feature of this condition. Sulfa drugs are given to these patients on the supposition that it may prevent complications due to secondary invaders. The fluid intake is maintained at 3 to 4000 c.c. per day. Opiates, particularly Codeine Sulfate in ½ gr. doses, are of value for cough and headache. Expectorants are not of great value at the beginning, but may be helpful when sputum begins to appear more freely. Steam inhalation, with or without, tinct. Benzoin Co. is helpful.

Oxygen therapy, tent or per nasal catheter, is indicated when marked cyanosis or dyspnea occurs.

The diet may be unrestricted.

Isolation of patient is recommended.

Complications are treated as they arise.

During the long period of convalescence tonics and vitamins may be helpful in restoring normal health and well being.

The following case history is illustrative of the description of the disease given above: —

March 3, 1942, I saw a white, male college student, 20 years of age, who was complaining of a severe, frontal headache; hacking, non-productive cough and occasional chill and sweat. The young man had not felt well for the last three days. Physical examination was negative. Temperature by mouth was 104°F. Respiration rate — 20 per min. Pulse rate — 78 per min. The next evening, a scarlatinaform rash appeared over the abdomen and back, disappearing completely towards morning, lasting only about 8 to 10 hours. On March 5th the patient was transferred to the Norwegian-American Hospital. The headache persisted; the cough was worse and the temperature stayed over 104°F by mouth. There was no pain on inspiration; no rusty or bloody sputum and no herpes labialis. On this 5th day of illness, there seemed to be a slight dullness over the left lower lobe posteriorly and a few rales could be heard over the same area, but there seemed to be no impairment of breath sounds. Examination of the heart was negative. BP — 110/70. A roentgenogram on the same day revealed a shadow over the left lower lobe, variable in density and not sharply defined at its upper border, but seemed gradually tapering off into the normal tissue above. The roentgenologists's report was: — "Roentgenological findings show a consolidation of the left lower lobe which apparently is due to a pneumonic process."

Examination of the nose, throat, ears and sinuses proved negative.

Laboratory tests gave the following data: —

Urine — showed 1+albumine and no casts.

Blood — 3500000 r.b.c.; Hgb.—18 Gm.; WBC—8300 (segmented Neutrophils — 35%, Lymphocytes — 35%)

Blood smear — negative for pneumococci and malaria.

Sputum — no pathologic pneumococci, or strep and no TB — bacilli. Mouse inoculations proved negative for TB — bacilli.

Tests for Typhoid, Paratyphoid A and B, B.Abortus and B. Melitensis — all proved negative.

The temperature reached its peak on the 7th day of illness reaching 105 F. by mouth and then receded gradually until it reached normal on the 15th day of illness. The highest pulse rate was 112, also on the 7th day of illness, while the highest respiration rate of 52 per min. was reached on the 8th day, with some cyanosis at the same time. Pulse and respiration rates became normal on the 16th and 18th day of illness, respectively.

The treatment consisted of sulfapyridine at first and later sulfathiazole and supfadiazine. These had no apparent effect on the symptoms or course of the disease.

No complications developed and convalescence was uneventful with complete recovery.

SUMMARY

A disease of the upper respiratory tract, involving primarily the pulmonary tissue is described. The etiologic factor of this disease is not definitely ascertained as yet, but generally believed to be a virus.

The main clinical features of this disease are: — more or less insidious onset, headache, dry cough, high temperature, which falls by lysis, pulse and respiratory rates — low, out of proportion to the prevailing high fever; slight, if any, change in leucocyte count; bacteriologic examination of sputum and blood are negative for pathogenic bacteria; physical findings are of no significance and only a roentgenogram reveals a pulmonic involvement; the sulfa drugs are completely ineffective; complications are rare and recovery is complete.

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Those drugs, including the opiates, physostigmine, prostigmine methylsulfate and the choline derivatives, which stimulate motility of the small bowel inhibit the colon. Solution of posterior pituitary and pitressin produce powerful contractions of the colon but diminish motility of the small bowel. Postoperative distention may be due to the paralyzing action of morphine on the colon.—C. B. Puestow, Chicago, in *Jl. A. M. A.*, Nov. 21st.

HEMORRHAGE FROM THE INFERIOR EPIGASTRIC ARTERY

Report of a Post-Operative Case

ROBERT JOHNSON, M.D.

CHICAGO

Hemorrhage from the inferior epigastric artery is not rare. Many surgeons, in personal conversations, report having had contact with such cases. The literature is replete with reports of spontaneous hemorrhage, but those due to trauma and those occurring post-operatively are scarce.

The chief interest in the subject lies in the difficulty in making an exact diagnosis, and in eliminating intra-abdominal diseases and diseases other than hemorrhage of the abdominal wall. Once an exact diagnosis is made the surgeon may with confidence make use of the various methods to control hemorrhage, such as pressure, application of a tourniquet (obviously inapplicable here), and direct ligation.

Hemorrhage from the inferior epigastric artery may be spontaneous, traumatic, or post-operative.

Spontaneous hemorrhage was reviewed from 1809 to 1880 by Maydl[1]; those occurring prior to 1923 by Wohlgemuth[2]; and those from 1919 to 1938 by Payne[3]. Coleman and Bennett[4] gave an excellent resume of the subject in this journal in 1941. Payne reported three cases of spontaneous rupture of the superior and inferior epigastric arteries; one of a male, 55, who suffered a mildly severe pain in the left side of the abdomen while a passenger in an automobile; a mass, soon developing in the region of the left rectus, was the size of a grape-fruit. The clot was evacuated and the bleeding vessels ligated. The second patient was a 64 year old male who had had a gradually increasing pain in the left lower abdomen for a week, with no causative trauma. On examination, the left recutus region stood out like a bologna sausage from the ensiform to the symphysis pubis. After about 5 days' observation, the clot was evacuated and a bleeding vein ligated. The third patient was a 46 year old female who for one week had a steadily increasing pain and mass in her lower left abdomen. The mass was the size of an orange, lay within the region of the rectus sheath between the umbilicus and pubis, and

showed a purplish discoloration just below the umbilicus. The clot was evacuated as in the previous two patients. All patients were relieved and recovered. These reports are typical of the many cases of spontaneous hemorrhage which have been reported.

As to *traumatic hemorrhage,* Moreno[5] described one case of fatal internal hemorrhage due to a wound of the epigastric artery caused by a simple penetrating wound of the abdomen. Malice[6] reported two cases of stab wounds of the abdomen producing hemorrhage from the inferior epigastric artery. Other cases are reported in which various forms of external trauma have been the causative factors.

A study of the literature for the past seven years revealed only one case of *post-operative hemorrhage* from the inferior epigastric artery. Gallander[7] states "the inferior epigastric artery may be injured in a low rectus incision, either in splitting muscle fibers or in retracting them." Decoulx, Driessens and Demarez[8], in 1939, described a case of spontaneous hematoma following four successive laparotomies, the most recent operation occurring in 1931. With an 8 year interval, this hemorrhage should not be classed as post-operative, yet, since the authors state that the etiology of the muscular lesion (leading to hemorrhage) was unquestionably the multiple irritative actions of the repeated laparotomies, aggravated by the coughing of bronchitis, it has been included.

While it is conceded that the diagnosis of post-operative hemorrhage is often made easily because the field has recently been invaded, yet, frequently, just as much confusion as to diagnosis exists as with spontaneous hemorrhage. Those occurring in the early post-operative period are fairly frequent, easily recognized, and easily controlled; and, consequently, are of little interest. The late or secondary hemorrhage, occurring after healing is complete, or nearly so, is the type which may be difficult to diagnose. It is such a case that is being reported here.

REPORT OF CASE

Mrs. M. P., a patient of Dr. David R. Scott, a well developed, well nourished multipara, 31 years of age, entered the Norwegian-American Hospital on June 10, 1942, for the relief of a persistent right lower abdominal pain. On June 11, 1942, through a right paramedian incision, her appendix was removed and both ovaries were partially resected for massive follicular cysts. A branch of the inferior epigastric artery entering the posterior surface of the right rectus abdominis muscle was ligated on entering the abdomen. During closure, the same artery was again found to be bleeding. It was carefully isolated and ligated with a transfixion ligature of plain O catgut. The operation was completed with all bleeding controlled. After an uneventful convalescence, the patient went home on the eleventh post-operative day.

On June 25, 1942, 14 days postoperative, the patient was wakened at 2 a.m. from a sound sleep with a pain in the abdomen in the region of the healed incision. She was readmitted to the hospital later that same day. The pain had persisted all day, had become very severe, was constant in character, and had spread upward to the lower thoracic or diaphragmatic region and downward to the lower abdomen and pelvis. Her respirations were short, shallow and jerky because of the upper abdominal pain. Her conjunctivae were pale, the pupils were dilated, there were dark rings under her eyes. The lips, skin and nails were pale. There was mild perspiration which was not clammy. The extremities were cold. There was air hunger and thirst. The temperature was 97.4 F., pulse 110, respiration 26, blood pressure 96/60.

There was a lobulated, fairly firm, tender and painful mass, 3 inches wide by 5 inches long, under the well healed right rectus incision; in this region the abdominal wall was rigid and elevated noticeably above the remainder of the abdomen. When the head or leg was raised the tense anterior rectus fascia could be felt overlying the mass. Elsewhere, the abdomen was soft and flaccid, with normal peristaltic sounds, and no shifting dullness in the flanks. A vaginal examination revealed tenderness and a boggy indefinite mass or "sense of resistance" all over; in the cul-de-sac, both lateral fornices, and anteriorly around the bladder.

The urine examination was essentially negative. The blood count showed 3,190,000 red corpuscles as compared to 5,050,000 two weeks previously; hemoglobin 12.5 grams (69 Sahli units) as compared to a previous 17 grams (94 Sahli units); and 18,000 white corpuscles as compared to a previous 9,050.

The diagnosis was secondary hemorrhage from a branch of the inferior epigastric artery, which had been twice ligated just two weeks previously. The upper abdominal and pelvic symptoms were accounted for by a migrating dissection of the posterior rectus sheath and peritoneum upward to the diaphragm and downward to the loose areolar extraperitoneal tissues of the pelvis. Since there were no intra-abdominal findings the hematoma was considered to be in a relatively closed space.

The treatment, therefore, consisted in a very tight abdominal scultetus binder, oxygen by mask for the anoxemia and to induce diaphragmatic rest, blood transfusions for replacement, and opiates for sedation.

Careful and frequent observation followed to determine whether or not surgical intervention and direct ligation were required.

The course was stormy. The patient was given an immediate transfusion of 600 cc. of citrated blood with considerable improvement. On the second day, however, during the course of the second transfusion, the patient developed a generalized urticaria, temperature of 102.2 F., pulse of 120 and severe headache. The donor had eaten a huge meal just before donating his blood in order to fortify himself for the ordeal. The recipient experienced a violent allergic reaction to his ingested food which quickly subsided with adrenaline. On the third day, while the nurse was re-adjusting the binder, the patient had a sudden fit of severe coughing which continued for several hours. Examination revealed all the physical signs of a right lower lobar pneumonia. The temperature, pulse, and respiration all remained relatively normal, however, nor were there any signs of toxemia or of shock. Sputum and mouse inoculations were negative for pneumococcus. The chest x-ray revealed irregular areas of increased density at the cardiophrenic and costophrenic angles. A diagnosis of pulmonary embolism was made.

The abnormal lung findings disappeared in four days. The blood count returned to normal in five days. The patient was allowed up on the eighth day and was discharged on the fifteenth day with a normal abdomen to physical examination. She complained of distress and dull pain when her bladder was overfilled. This disappeared at home on about the twenty-third day, since which time she has remained well.

COMMENT

The recognition of hemorrhage from the inferior epigastric artery depends upon, first, signs of concealed hemorrhage, if present. With the smaller hematomas, e.g., one the size of an orange, no signs of concealed hemorrhage may be discernable. As the hematoma increases in size, the signs of hemorrhage become more and more apparent.

Second, a mass is always present, is painful and tender, is underneath the anterior rectus fascia, is limited laterally by the lateral borders of the rectus, superiorly by the costal margin, and, inferiorly, it may go so far as to fill the extraperitoneal pelvic spaces. Beyond the region of the involved rectus sheath, the abdominal wall is normal.

Third, signs of intra-abdominal disturbance, such as shifting dullness in the flanks, altered peristaltic sounds, a mass shifting under the abdominal wall, altered percussion note, or significant changes in gastro-intestinal physiology, are absent.

The treatment consists in, first, replacement of the blood loss; second, efforts to control the bleeding by pressure with a tight abdominal binder while preparing the patient for surgery (Lichtenstein[9] states that the last 5 or 6 cases treated at Cook County Hospital with tight binding recovered without ligation); and, third, surgical evacuation of the clot and direct ligation of the bleeding vessel only if the above procedures fail to control the bleeding, and the clot fails to absorb. Tight abdominal binding, it is pointed out, may be sufficient to control bleeding and make surgical ligation unnecessary.

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NAIL LACQUER DERMATITIS

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The great number of reports on the clinical application of the sulfonamides has been complemented by a rich literature on the toxic visceral and the cutaneous manifestations[1] of the clinical applications of these drugs. These latter reports have raised the "index of suspicion" of the alert practitioner for evidence of systemic toxemia and for the readily seen toxic dermatoses[2] due to drugs, including the sulfonamides,[1] with the result that many practitioners now proceed on the premise that any toxic cutaneous reaction developing in a patient receiving one of the sulfonamides is due to the particular drug in this group that is being given, unless proved otherwise by consultation or the disappearance of the cutaneous toxic reaction when the drug is

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stopped and fluids pushed. The knowledge of dermatitis due to external irritants[3] has been enriched by many reports and investigations during the past decade in industry;[4] and in cosmetic irritants,[5] and more recently attention has been called to an external irritant dermatitis due to nail lacquer.[7, 8]

In the case here reported a white female, aged 24, was admitted to the orthopedic service of the Michael Reese Hospital for a supracondylar osteotomy of the femur to correct a bowing due to ricketts in childhood. The fragments were held in place by Steinman nails and postoperative drainage developed around the nails. Sulfathiazole was given to the patient in small daily doses, and she promptly developed nausea[6] after taking the sufathiazole, and within a few days after its administration there developed an erythematoscaling dermatitis of both eye lids with associated edema of the lids (Figure 1).



Figure 1 — Edema and dermatitis of the eye lids. The involved areas were the site of a superficial, erythematous scaling dermatitis.

Since the patient was on Sulfathiazole, and had developed nausea[6] following its administration, it was felt that the eruption on the eye lids might also be related to Sulfathiazole, and dermatologic consultation was requested. When first seen by me the presence of a dermatitis of limited character involving the orbital areas with the complete absence of a generalized profuse eruption possessing the usual morphological characteristics of a toxic dermatosis of endogenous origin[2] reduced "the index of suspicion" for a drug eruption, and raised the presumption that the present eruption, limited to the eye lids, was most probably of external origin. When the patient was questioned about her very lustrous finger nails, she admitted that she had polished her finger nails, and had used a popular brand nail lacquer[7, 8] just previous to the development "that liquid nail polish is simply a lacquer which contains celluloid or Duco in a solution of acetone or amyl acetate, together with castor oil, of the eruption on her eye lids, Tulipan[5] states alcohol, ether and dyes". Weber[3] lists all the substances mentioned by Tulipan, except ether, as cutaneous irritants, and the nail polish used by the patient contained the irritants listed by Weber[3]. The edema of the eye lids, the redness and scaling promptly subsided when the use of the nail polish was stopped, and the patient left the hospital with complete subsidence of the eruption within a week.

COMMENT

With the increasing use of the sulfonamides in medicine, and the increasing reports of varied toxic reactions from their use, it is important that the physician be on the alert for all types of toxic reactions, and be able to differentiate the cutaneous reactions occuring in a patient taking one of the sulfonamides; from those reactions due to other causes; or from any of the toxigenic drugs[2]. The increasing number of reports on dermatitis due to external irritants[3] have served to establish a definite morphological concept for these conditions so that differentiation should not be difficult with proper consultation. The case here reported is an illustration of this theme.

Note: Since seeing the above patient, I have seen a girl in my private practice, employed as a secretary, who presented an acute erythematocrusted and weeping dermatitis of the dorsum of the hands and fingers, that had been present at intervals for the past two years. Her nails were highly polished, and when questioned about the possible relationship of this acute dermatitis, and her "nail care", she admitted

that this was a possibility, and further questioning revealed that the eruption on the hands usually seemed worse following the use of liquid nail polish. She had been using a popular brand of nail polish of the same type as used by the patient reported above, and on withdrawal of all nail polish and lacquer from her nail care together with appropriate local treatment, there was a prompt involution in the dermatitis.

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RUPTURED INTERVERTEBRAL DISK

The term "lumbago" is rapidly falling into disuse as a nondescript designation for ill-defined pains in the lower spinal region. Unknown as an entity but twelve years ago, ruptured intervertebral discs are recognized today as the cause of a remarkably high percentage of hitherto intractable and incurable low back pains and sciaticas. Neurosurgeons have now precisely defined the symptomatology and pathology, and perfected an operative technic that not only relieves but cures virtually all back disorders in this category.[1,2]

The symptoms are low back pain in recurring attacks, some very severe and disabling, the pain radiating down the posterior aspect of the legs. An interesting as well as a diagnostic feature is the intensification of the pain on sneezing, coughing, and straining of the abdominal musculature. The spine is stiff, relatively immobile, for movements aggravate the pain. Lasègue's sign is usually positive. Neurologic manifestations must be carefully sought, as the Achilles reflex, and occasionally the knee jerk, may be diminished or even absent. Sensory disturbances are not uncommon, consisting of hypoesthesias of a segmental distribution, and paraesthesias. Previously, contrast media were used to localize and demonstrate the lesion radiologically, but this procedure is now deprecated, for extensive investigations have demonstrated that 96 per cent of these cases are situated in the region of the fourth and fifth lumbar vertebrae.[3] This significant finding obviates the necessity for contrast x-ray studies, with the attending disadvantages. Needless to say, pelvic, rectal, and neighboring osseous pathology must be excluded before a diagnosis of ruptured intervertebral disks can be safely made.

The operative technic has been simplified so that the original bilateral laminectomy has been replaced by a method in which the neural arch is either preserved or untouched, with rare exceptions. After adequate exposure, the necrotic intervertebral disks, the result of trauma and not of infection, are curetted. In about 25 per cent of the cases the necrotic intervertebral disk does not protrude and hence is not easily visible, but is concealed and must be searched for and emptied.[4] Not all of the pathologic disk need be gouged out, but free egress for its ultimate protrusion should be provided, as in the adequate opening and drainage of an abscess. After the operation, a brace should be worn for three months. Recurrences are unusual after operation, so that once a cure is attained it may be regarded as final.

A crippling and disabling ailment is now amenable to surgical therapy. For those who habitually suffer from agonizing back pain with sciatic symptoms an avenue of cure is now opened. As in all disorders that cause disability and painful inefficiency, the cure of ruptured intervertebral disks will not only make many persons happy but will also make them more useful.—*New York State J. M.*, 42:2197-2198, *Dec.* 1, 1942.

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Industrial Health

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EPIDEMIC KERATOCONJUNCTIVITIS

Since this ailment is appearing in this state, prevention of its spread is important in order to minimize incapacity and absenteeism. The following is copied from Circular Letter, Number 14, Office of the Surgeon General:

"The initial symptoms are those of acute follicular conjunctivitis. In many cases the onset is sudden and severe. The conjunctivitis is characterized by "sandy feeling," as if a foreign body were present. Examination of the eye at this time discloses an extremely congested and chemotic conjunctiva, rather glassy in appearance, with sometimes concomitant edema of one or both lids, particularly the upper. Petechial or larger conjunctival hemorrhage may occur. The conjunctivitis persists about two weeks. There is no discharge, although a transient pseudomembrane may appear on the palpebral conjunctivas and caruncle. Systemic symptoms composed of headache and malaise occur shortly after the onset of the conjunctivitis in from 25 to 50 per cent of the cases. The headache, a moderately severe, dull, aching pain over the frontal or occipital region, lasts two to three days and is apparently unrelieved by analgesics in most cases. It frequently prevents sleep and is often described as a "night pain". The malaise, when it occurs, varies in intensity with the severity of the conjunctivitis in most instances and is described as "not feeling well" or as having an "achy feeling". A preauricular adenitis appears in about 75 per cent of the cases thirty-six to forty-eight hours after the onset of the conjunctivitis. The nodes usually measure 1 to 2 cm. in diameter, are tender and may remain enlarged from one week to several months. A keratitis appears about one week following the first symptoms of conjunctivitis. This is characterized by sudden pain, photophobia, lacrimation and blepharospasm. Close inspection of the eye at this time reveals several dotlike opacities in the cornea. These gradually become larger and coalesce to form small round opacities from 0.5 to 1.5 mm. in diameter. The symptoms due to the onset of the keratitis usually last about one week but in some cases persist for two to six weeks. With the appearance of the keratitis the visual acuity is definitely diminished. Patients sometimes complain of seeing halos around objects. Precision work at this time is almost always impossible. A 20/30 vision is usually regained in some three to six weeks and the ultimate prognosis as to vision is good. The disease is self limited, usually lasting from one to three months but sometimes much longer. The corneal opacities do not ulcerate, gradually diminish in size, and in most instances finally disappear. In some severe cases, however, damage to the cornea causes a permanent impairment of vision.

"The early recognition and prevention of spread of this disease is particularly important because of its high noneffective rate. Precautionary measures which should be carried out consist in: (1) Isolation of the patient during the acute stage of the disease, if practicable. Patients should have no access to towels, soap or washstands used by others. Where a small number of cases occurs, strict isolation is desir-

able. (2) Careful supervision of patients with irritated eyes, chalazions and traumatic lesions of the eyes which render them more susceptible to keratoconjunctivitis. (3) Advice to the patients that this disease may be transmitted by hands, towels, handkerchiefs and other fomites that have been in contact with the infected eye. (4) Thorough washing of the hands after examination of a suspected patient and before examination of other patients. (5) Sterilization of solutions, eye droppers and instruments used in eye cases. It is particularly important for the responsible medical officer to see that the fourth and fifth precautionary measures just mentioned are observed, since the dispensary can become the focus for the distribution of keratoconjunctivitis to patients who otherwise would not be exposed."

These cases should be reported to the local and state Health Departments.

Frederick W. Slobe, M.D., Chairman

PASS THE AMMUNITION

We are reminded every so often that where there is no vision the people perish. Our vision has occasionally become very dim even if it has never entirely faded, and this has usually occurred when the present has seemed most fruitful and the future most promising. It is only when we are combating adversity that we realize the sweetness of its uses, and then, for a time, the veil is lifted from our eyes.

A year ago at Christmas time we had embarked on a common enterprise, each of us sharing the hopes of victory and risking the dangers of defeat. We were confused and uncertain then, fearful of our weaknesses and ignorant of our strength. We knew what we had been spared many of the miseries of other peoples, but we did not know how long we might be spared them, or what else the future might contain. We knew only that a year of giving ground was in store for us — a year of sparring for time before we had strength to strike back.

Some of our weaknesses have been uncovered, and we know now that we have strength and courage and initiative in spite of the soft years that are behind us. We have put a girdle around the earth, if not, like Puck, in forty minutes; our youths are standing to their arms by Greenland's icy mountains and on Africa's golden sands. They are, to borrow further from the same literary source, basing their activities on the coral strands of India; and the heathen who, in his blindness has bowed down to wood and stone, bows also before the fire of our guns of destiny.

We have celebrated the great pageant of Christianity, but it was as militant Christians that we observed it. As we go forth to war, the Son of God goes with us. This year we will praise the Lord, as usual, but we will also pass the ammunition.—*New England J. Med.*, 227: 1005, *Dec.* 24, 1942.

SULFAGUANIDINE AS A CHEMOTHERAPEUTIC AGENT IN INTESTINAL INFECTIONS

(E. K. Marshall, Jr., Baltimore, in *Miss. Doc.*, June 20th)

A number of controlled studies on the use of sulfaguanidine in bacillary dysentery have appeared during the past year. Cases of dysentery due to Flexner, Shiga, Schmitz and Sonne type have responded favorably, the clinical course being considerably shortened. Data obtained on Shiga cases:

1. Feeling of well-being within 24-48 hours, rapid relief of abdominal pain and tenesmus.
2. Temperature and pulse in uncomplicated cases often normal within 1-3 days.
3. A remarkable reduction in the number of stools.
4. Rapid disappearance of blood from the feces; mucus also decreases, but takes longer to disappear.

Of 281 children receiving sulfathiazole, 9 per cent developed toxic reactions beyond nausea and vomiting. Sulfaguanidine toxic reactions are nil or negligible. Only cases which do not respond to this drug require a much more toxic and a more efficient chemotherapeutic agent.

Schedule: Initial dose, 0.05 Gm. per Kg.; maintenance dose of 0.05 Gm. per Kg. every 4 hours until number of stools is reduced to 5 or less, then 0.05 Gm. per Kg. every 8 hours, for at least 3 days. In adults, weight can be disregarded and a dose of 3.5-4.0 Gm. given.

Clinicopathologic Conferences

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PRESENTATION OF CASES BY
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PULMONARY EMBOLISM

Mrs. F. F.—This patient, 60 years of age, was admitted to the hospital complaining of vaginal bleeding for two weeks. She had passed her menopause about 8 years previously and since that time had no vaginal bleeding or discharge of any kind. Three weeks before entrance to the hospital she began "spotting" and since that time the flow of blood increased until she had to use two napkins per day. The bleeding was not accompanied by pain or discomfort.

In the past history the following important features were disclosed. The patient had had two children, one of whom was delivered by forceps. There was no history of carcinoma in the family. On physical examination the blood pressure was found to be 210/140. The lungs expanded equally and the heart borders were within normal limits. There was a systolic murmer at the apex which was transmitted to the base.

The next day 125 mg. of radium were inserted into the uterus and allowed to remain there for 24 hours. A week later the abdomen was opened and the uterus was found to be irregularly enlarged from fibrous masses in its wall. The ovaries were small and atrophic. A panhysterectomy was performed. The urine of this patient had a specific gravity of 1.010 at one examination and 1.025 at a second examination. Each time red blood cells were found and many white cells. The blood count was 4,390,000 red cells per cubic mm. and 9,950 white cells per cubic mm. In the differential count there were 25% lymphocytes, 3% mononuclear cells, 70% neutrophiles and 2% eosinophiles. The hemoglobin was 80%.

The pathological examination of the tissues removed at operation resulted in the diagnosis of fibromyomas of the uterus and benign endometrial polyps. This patient had no fever until her second post-operative day and then became afebrile on the fourth day. On the eighth post-operative day the patient became restless but had no definite complaints. On the tenth post-operative day the patient became cyanotic at about 12:20 P.M. Her skin became cold and clammy and her respirations were shallow and labored. One ampule of coramine was given and one of caffine sodio-benzoate. Oxygen inhalations were started within 5 minutes. At 12:49 P. M. respiration ceased. The autopsy disclosed the following:

Autopsy Report — This is the body of a white woman about 60 years old, weighing about 170 lbs. and 5 feet and 6 inches tall. The scalp hair is dark brown only faintly streaked with gray, the eyes are gray. There are dentures for all of the teeth in both upper and lower jaws. The neck is plump and near its base contains a scar of an old thyroidectomy. The breasts are plump and the abdomen is moderately obese. There is a midline laparotomy wound now closed with black silk sutures. The edges of the wound are in excellent apposition and partially healed.

The fat of the front vertical midline incision is 6 cm. thick distal to the navel. There is a

sinus tract in the subcutaneous fat approaching within 4 mm. of the skin of the distal third of the laparotomy wound. This tract leads downward to the fundus of the urinary bladder and along the back surface of this organ to a cavity 5 cm. across and 1.5 high. The cavity is roofed over by the sigmoid part of the colon which is bound to it by fibrinous adhesions. Most of the top of the cavity is formed by peritoneal layers held in place by catgut sutures. The base of the cavity is formed by the anterior wall of the rectum in back and by the posterior wall of the bladder in front. There is a sinus opening from the urinary bladder 8 mm. across and 1 high into the cavity described and through the blood clot, in this it connects with the anterior wall of the rectum. In the latter structure there is again a transverse sinus opening resembling that of the bladder and on the rectal end of the tract is a small tag of catgut. There is a localized pelvic peritonitis on the left side and this is limited to a region about 7 cm. square by the coils of small bowel and the meso-sigmoid. The uterus is missing as are the fallopian tubes and ovaries.

The cecum is distended with gas and 12 cm. in diameter. The coils of small bowel contain an abundance of bile stained chyme. On the left side of the pelvis close to the cavity, before described, there are several knots of dilated veins. In one of these is a firm organized clot with a diameter of 3 mm. There are soft propagated thrombi on each end of this clot which is 2.8 cm. long firmly attached to the wall and which extends into a collateral.

The stomach contains about 300 cc. of sour curdled material resembling milk. There is no change of the lining of the gall bladder or of the common, cystic or hepatic bile ducts. The pancreas has a heavy peripheral infiltration of fat. The lining of the portal vein and hepatic artery is unaltered. The spleen is flabby, weighs 200 grams and has a soft purple parenchyma. The supra-renal glands have thick cortexes which are well provided with bright yellow lipoid. The medullas are pale, gray and firm. The kidneys are of normal size and each weighs 175 grams. The right kidney contains about 12 cysts, these project above the cortex and the largest is near the upper pole 12 mm. in diameter and filled with gray yellow liquid. The left kidney is fluctuant and its pelvis is dilated to twice normal size. The calyces are distended with thin pus and the linings are speckled with hemorrhages. The left ureter is dilated to 3 cm. in diameter at its junction with the pelvis. The lining of the urinary bladder is dull red purple and contains two encrusted zones each 5 mm. in diameter and containing dull yellow gray elevations of pus and fibrin. There is a similar collection of material surrounding the sinus tract.

The diaphragm can be pushed to the middle of the fourth interspace on each side. Both lungs are crepitant and feathery except a region 6 cm. in diameter and extending 2 cm. into the right middle lobe on the costal surface. The center of this firm region is dull red and contains emboli of firm clot in the arteries of the fourth order. The clots completely close the lumen of two arterial branches. In the main pulmonary artery and extending into its two main branches is a tangle of blood clot with a diameter of 3 to 5 mm. The spaces between portions of this clot are filled with soft red blood. The combination of embolic clot and fresh clot is sufficient to entirely close the lumen of both main branches. Portions of clot 3 to 5 mm. in diameter and up to 12 mm. long are scattered at intervals about 6 in all throughout the branches of the second and third order of the pulmonary artery to each lung. These small clots are free in the lumen and are of insufficient caliber to occlude it. Each lung weighs about 450 grams.

There are only about 20 cc. of gray yellow liquid in each pleural cavity. The fat of the mediastinum is up to 4 cm. thick and there is no vestige of thymic body.

The heart weighs about 380 grams. On the middle of the front of the right ventricle is a firm fibrous patch 2 cm. in diameter. The circumference of the pulmonic ring is 8 cm. and just distal to the cusps the clot already noted in the pulmonary artery begins. At the circumference the aortic valve ring is 7.2 cm. The cusps of the aortic ring are thickened at their bases. The root of the aorta is changed about 20% by fat, this occurs in irregular patches 2 to 5 mm. in diameter. In the abdominal part the aorta is changed about 40% by fat. On surfaces made by cutting the myocardium is dull brown but containing occasional snow-white

flecks 1 to 6 mm. in diameter. Only about 10% of the lining of the coronary artery is changed by fat.

The lining of the inferior vena-cava is smooth and pale blue gray. The openings of the hepatic veins are unchanged.

Anatomic Diagnosis:

1. Recent pan-hysterectomy.
2. Fistulous communication between the rectum and urinary bladder.
3. Purulent urinary cystitis.
4. Ascending left uretero-pyelonephritis.
5. Organized thrombi in the left pelvic peritoneum.
6. Localized pelvic peritonitis.
7. Pulmonary embolism. (slight with infarction; extensive and fatal).
8. Moderate generalized senile arterio-sclerosis.
9. Chronic interstitial myocarditis.
10. Old thyroidectomy.
11. Obesity.

Histology: In the frozen sections stained with H & E the heart muscle contains an increase of fibrous tissue near the branches of the pulmonary arteries. In general the muscle fibers are quite regular and the striations are distinct. There are moderate accumulations of brown pigment at the poles of the nuclei. The renal glomeruli are well preserved and most of them entirely fill the Bowman's capsules. The capillaries near the junction of cortex and medulla are dilated and in a few places are surrounded by hemorrhages. In other sections of kidney the tubules are swollen and a few of them contain albuminous casts. In these sections also there are occasional hyalinized glomeruli. In the pancreas there are extensive fatty ingrowths near the periphery. These extend especially along the septa between the lobules. In the spleen the Malpighian bodies are large and clearly separated from one another by dilated blood filled sinusoids. A portion of uterus contains a typical fibromyoma, parts of this have undergone degeneration and contain homogeneous blue staining regions. A section through a blood clot contains imperfect laminations of white cells and a little fibrin which alternate with broad fibrin bands to which are attached fresh red clots. A part of the fistulous tract is composed of granulation tissue, runs through fat and other portions are in the muscle. There are heavy accumulations of lymphocytes in a few places and admixture of polymorphonuclear leukocytes suggesting abscess formation. The supra-renal glands contain the usual amount of pigment near the junction of cortex and medulla. The layers of the cortex are clearly defined. The liver lobules are distinct and the cells in the central fourth are heavily pigmented with hemosiderin. There is only a slight increase in the lymphocytes in the portal region. A second portion of clot thickened from the inferior vena-cava resembles the piece found in the pulmonary arteries and previously described. The lung contains two types of change about one-fourth is atelectatic, another 20% has alevoli of normal size and the rest are dilated.

Case 2 Mrs. M. K. — This patient 56 years of age came into the hospital complaining of cough, vomiting and pain in the right side. A week before entrance she started to cough and her head felt congested. At the same time she had a severe pain on the right side radiating to the back and down to the lower abdomen. In the interval between the onset of these symptoms and her entrance to the hospital she vomited several times each day. Her past history included three normal pregnancies and one miscarriage but in other respects was negative. On physical examination she was well developed but weak and apparently ill. Her blood pressure was 180/110 and her heart rate was 84 per minute.

The essential change was noted in her abdomen which was tender on the right side just below the costal margin and extending downward and toward the midline. There was slight rigidity of the upper part of the abdomen. The diagnosis was acute cholecystitis.

The urine had a specific gravity of 1.005, was clear and had an acid reaction. It was free of albumin and sugar. The blood count showed a hemoglobin of 75%; 3,820,000 red blood cells per cubic mm. and 26,500 white blood cells per cubic mm. The differential count was 93% polymorphonuclear neutrophiles, 3% small lymphocytes and 4% transitional cells.

At operation the omentum was edematous and in places attached to the liver by fine fibrinous adhesions. The gall bladder was covered with a

shaggy coat of fibrin and was tense. A trocar was introduced into the gall bladder and 100 cc. of yellow pus was evacuated by suction. Even after emptying the gall bladder failed to collapse because of marked thickening of its wall. A drain (No. 20 catheter) was sewed into the gall bladder and the abdominal wound was closed in layers. Before completion of the operation considerable dark yellow bile escaped through the drain tube. The patient's temperature was 101.6° on the day of operation and by the second day thereafter it dropped to 98° and remained normal. Recovery progressed uneventfully until the 12th post-operative day when the patient suddenly expired. The results of the autopsy disclosed the following:

Autopsy Report. — This is the body of a white woman about 56 years old, weighing about 160 lbs. and about 5 feet 3 inches tall. The scalp hair is silvery white and the eyes blue. The features are regular and body nourishment is good to the point of slight obesity. The abdomen is especially fatty and the thighs are large.

The fat of the front vertical midline incision is 16 cm. thick and in large pale lobules. There is a recent operative wound 12 cm. long, 4 cm. to the right of the midline and with its upper end at the rib margin. The edges of this wound are healed except in a place 8 mm. vertically and 4 across, 2 cm. from the distal end. In the opening is a little thick green pus. Continued inward the opening connects with a fistulous tract which traverses the subcutaneous fat, a roll of omentum and finally enters the fundus of the gall bladder in front. In the bladder is an opening 8 mm. in diameter and at one edge of this is a catgut ligature embedded in the muscle. The gall bladder is fibrous and from 4 to 6 mm. thick. The bladder has a total length of 11 cm. and is 3.2 cm. across at the fundus. It describes an "S"-shaped kink at the neck before joining the cystic duct. In the middle portion of the "S" the lumen is blocked by a gallstone 11 mm. long and 7 in diameter. This is firm and dark green except for one place about 4 mm. in diameter where it has a glistening yellow incrustation of cholesterol crystals. The gall bladder lining is dull red and coated with thin mucus in which are flecks of pus. The front edge of the liver is 6 cm. uniformly beneath the costal margin.

The coils of the large bowel are distended with gas and up to 11 cm. in diameter. The appendix is retrocecal and about 15 cm. long. It has a right angle kink 4 cm. from its tip and the wall is fibrous. The small bowel is from 2.5 cm. to 4 cm. in diameter. Its serosa is smooth and its wall is unaltered. The stomach contains about 75 cc. of thick green liquid resembling mucus mixed with bile. The pancreas is flat and 18 cm. long. There is a heavy ingrowth of fat near its periphery. The pancreatic duct is normally thin and its lining is gray and smooth. The spleen weighs 170 grams and its capsule is wrinkled and gray purple. The pulp is soft and the Malpighian bodies are not distinct.

Both fallopian tubes are patent but are firmly bound to the back of the broad ligament on each side. The ovaries are atrophic and each is only about 22 mm. by 12 by 8. The uterus is firm and about 8 cm. long. Its wall is fibrous and the arteries in it stand out on surfaces made by cutting. The endometrium is thin and pale yellow pink. The lining of the urinary bladder is dull red from hypostasis. The rugae are coarse. The openings of the ureters are the usual narrow slits.

The kidneys are firm and red brown. The cortex of each contain shallow fetal-lobation markings. The cortex of each kidney is 8 mm. wide and is clearly demarcated from the underlying medulla. The lining of the renal pelves, calyces and ureters is smooth and gray. The right kidney weighs 190 grams the left 170. The supra-renal glands are well provided with lipoid material and the medullas are smooth and gray.

The lining of the inferior vena-cava is pale gray blue and smooth. At the junction with the right common iliac vein the lumen contains a mottled red gray clot 5 mm. in diameter and 12 long. This is free in the lumen and is so close to the bifuracation of the vena-cava that its exact origin in the extremities cannot be determined. The lining of the aorta is changed about 40% by fat in the abdominal part but only about 20% in the thoracic region. In the pulmonary artery is a large fresh clot plugging the lumen for 2 cm. as well as entirely closing both main branches. About two-thirds of this clot is dull red and recent. The rest of the clot is a tangle of the same caliber as the small piece noted in the inferior vena-cava. There is a similar small

clot in the branch of the second order of the right pulmonary artery. The front two-thirds of both lungs is hypercrepitant and the rest is normally crepitant. The right lung weighs 360 grams and the left 320. On surfaces made by cutting, both lungs are gray-pink and the bronchi are not obstructed.

The heart sac contains only about 20 cc. of clear yellow liquid. The heart chambers contain only a few soft red clots. The empty heart weighs 380 grams. The fat on its front surface is up to 15 mm. thick and the branches of the coronary arteries are changed only about 5% by fatty patches. In the front wall of the left ventricle there is a heavy ingrowth of fat in a band about 8 mm. wide and 22 vertically. The measurements of the heart valve rings are as follows: aortic 7.2 cm.; pulmonic 8.2 cm.; mitral 10.4 and tricuspid 12.8 cm.

Anatomic Diagnosis:

1. Recent Cholecystostomy.
2. Draining fistulous tract between the skin and gall bladder.
3. Chronic Cholecystitis.
4. Stone impacted in the gall bladder neck.
5. Pulmonary embolism (complete obstruction of the pulmonary artery and its two branches).
6. Acute pulmonary emphysema.
7. Moderate senile arteriosclerosis.
8. Senile atrophy of the ovaries.

Histology: In the frozen sections stained with H & E — Spleen — There is marked hyperemia of the spleen. The sinusoids are hugely engorged with red blood cells and the Malpighian bodies are distinct and separated from one another by broad bands of bloody tissue. The central arteries of the corpuscles have a marked increase of the fibrous tissue of their walls and the lumens are narrowed. The trabeculae are thickened and hyalinized. Pancreas — The pancreatic acini are distinct and between them close to some of the smaller ducts are thin ingrowths of fibrous tissue. Near the periphery there is a moderate fatty infiltration. Heart — The heart muscle fibers are well defined although slightly swollen. There is a thin peripheral fatty ingrowth from the epicardium especially along the coarse of the main coronary arteries. Kidney — The kidney glomeruli are distinct and there are few of them with a wide Bowman's space. There is marked hyperemia at the junction of cortex and medulla and in a few places there are recent hemorrhages. The medium sized arteries are thick walled and most of the thickening is in the media. Some of them have a reduplication of the internal elastic lamella which is suggestive of changes noted in hypertension. Liver — The liver cord cells are poorly defined, in some places this is due to compression by the dilated sinusoids, and central veins. In the cells surrounding the central veins and as far removed as 8 to 10 cells, there are collections of hemosiderin characteristic of a long standing passive hyperemia. Blood clot — A portion of blood clot is laminated and the peripheral layers are mostly white blood cells and fibrin. The central part is composed of red blood cells. Lung — About one-third of the pulmonary alveoli are elongated and compressed. About 40% are dilated and of these about 5% contain remnants of alveolar walls. There is moderate coal pigmentation throughout the lung and there is a generalized distention of the large veins. In a few places there are small hemorrhages into the alveolar walls. Supra-renal glands — The supra-renal glands are unaltered except by hyperemia in the medulla. Uterus — The uterus contains moderate fibrous changes throughout its wall. The arteries are thick walled and have narrow lumens. The endometrium is atrophic and its glands occur at wide intervals.

DISCUSSION

Since its foundation the Loretto Hospital has had eight cases of pulmonary embolism which proved fatal. Statistical analyses based on the wide experience of the Mayo Clinic has revealed the following:

"Venous thrombosis and pulmonary embolism following surgical procedures are still the 'bugbears' of surgery. Every surgeon no matter how skillful and no matter how trivial a procedure he may perform, may to his amazement some day be confronted with a sudden exitus of the patient which seems incomprehensible to him and more so to the immediate family.

I — Incidence in various types of operations: In this series during a thirteen year period the total number of the cases of thrombosis with or without embolism and of embolism with or without evidence of other thrombosis was 1,665 and the total number of patients having operation was 172,888, making an

incidence of .96% for all thrombosis and embolism; 0.52% for pulmonary embolism and 0.20% for fatal pulmonary embolism.

Venous thrombosis and pulmonary embolism are relatively *twice* as common following laparotomy as they are following all operations and they are *three* times as common following laparotomy in which operations on the female pelvic organs were done as they are following all operations. The highest incidence of venous thrombosis and pulmonary embolism occurs in operations where there is laparotomy and extensive resection of tissue. These are operations which can be considered to be of relatively long duration and of relatively great magnitude. The incidence of venous thrombosis and pulmonary embolism is approximately *twice* as great in cases of repair of bilateral femoral or inguinal hernia as in cases of unilateral femoral or inguinal hernia. Here the difference is only that of magnitude and duration of operation.

Simple exploratory laparotomy for an inoperable malignant lesion, an operation of relatively short duration and small magnitude, carries a high incidence of venous thrombosis and pulmonary embolism, particularly the latter.

Resection of the stomach and resection of the intestines frequently done for carcinoma are also operations with relatively high incidence of venous thrombosis and pulmonary embolism. It is suggested that where carcinoma is present, there be some increased predisposition to postoperative venous thrombosis and pulmonary embolism.

It has been suggested that the incidence of thrombosis and embolism is greater in cases in which *fever* and *infection* exist, either before the operation is performed or during convalescence. The incidence of venous thrombosis and pulmonary embolism following appendectomy for ruptured appendix is more than twice as great as that following appendectomy for chronic or subacute appendicitis. Since the operations are approximately of the same magnitude, the only additional factor in the ruptured appendix would seem to be the presence of infection. The incidence of venous thrombosis and pulmonary embolism is also high following splenectomy. Since splenectomy is performed as a treatment for certain blood dyscrasias it may be followed by marked changes in certain elements of the blood and these changes may be an important factor in the development of the post-operative thrombosis and embolism.

II — Predisposing Factors: Some of the predisposing factors have already been alluded to, such as the presence of carcinoma, infections and blood dyscrasias.

In this large series the relative incidence of all thrombosis and embolism was greater in women than in men and this was particularly true of clinically diagnosed thrombo-phlebitis, in which the ratio was roughly 3 to 2. The incidence of pulmonary embolism both fatal and non-fatal was greater in men. The age distribution; the youngest was ten years of age and the oldest was eighty-eight. *Post operative* venous thrombosis and pulmonary embolism are quite rare in patients less than 20 years of age. More than 50% of the cases occurring in men are found in patients between the ages of fifty and sixty-nine years and more than 60% of the cases in women are found in patients between the ages of 40-59 years, thus these complications are seen among women at slightly earlier ages.

The incidence of post-operative venous thrombosis and embolism with regard to age in patients having abdominal hysterectomy and operations on the intestines, is definitely greater in patients over 50 years of age and more, than in those less than fifty years of age.

As regards the various types of disease which might act as predisposing factors a significant percentage of the total group was found to have cardiac disease, disease of the peripheral veins, blood disease carcinoma or severe infections; more than a third of the total group had none of the predisposing conditions. Cardiac disease, carcinoma and severe injections were found definitely more commonly in the men, whereas diseases of the peripheral veins and of the blood were found definitely more commonly in women.

Obesity of the patient definitely although not markedly predisposes to venous thrombosis and pulmonary embolism.

The post-operative venous thrombosis and pulmonary embolism have occurred following all types of anaesthesia but there has been no preponderance of incidence where any certain anaesthetic was used.

No significant differences were noted as to the months of the year except for a slightly increased incidence in January and decreased incidence in July to December.

III — Time of Occurrence During the Post-operative Period: Of the total number (1665), 1260 cases had venous thrombosis and of these, 938 were diagnosed clinically as thrombo-phlebitis. In some cases thrombo-phlebitis occurred as early as on the second post-operative day and as late as on the one-hundred and fifteenth day. The mean was the twelfth day. In about one-fourth of the cases the complication occurred during the first eight days, from the 9th to the 14th day, in approximately one-half the cases, and after the 14th day in approximately one-fourth of the cases. Thrombo-phlebitis was noted only rarely during the first four days. It is known that thrombosis may be present for some time before clincial signs and symptoms appear and permit the diagnosis to be made, although it is generally considered that the clinical phenomena appears within a few hours after the thrombus actually forms in most cases.

Of the 938 cases of clinically diagnosed thrombophlebitis, 95 or 10.4%, had two or more distinct episodes. In approximately one-third of the cases the interval between the first and the last episode was less than 4 days, in approximately one-third it was 4 to 9 days and in approximately one-third it was 10 days or more.

In approximately one-fourth of all the cases the embolism occurred before the 7th post-operative day; in approximately one-half of the cases, from the 7 to the 14 day; in approximately a one-fourth of the cases after the 14th day. This is also true of the group in which fatal embolism occurred. The earliest fatal embolism occurred on the first post-operative day; the latest on the 58th. Of the 897 cases of pulmonary embolism, fatal and non-fatal, multiple distinct episodes of embolism were diagnosed in 20% or 23%. The interval of time between the first and the last episode was less than 4 days in approximately one-half of the cases and less than 10 days in approximately four-fifths of the cases. Also of all the cases of embolism occurring in multiple episodes approximately 60% terminates with fatal embolism.

Of the 897 cases of pulmonary embolism 219 cases or 24.4%, the first episode was fatal. Of all the cases of fatal embolism (343) in 124 or 36% of cases, the fatal embolism was preceded by one or more episodes of non-fatal embolism. Of the 897 cases of embolism, both fatal and non-fatal, in 678 or 75.6% a non-fatal embolism was the first episode or only the episode. Of these 678, in 207 cases, or 30.3%, there were one or more subsequent attacks of embolism, and in 124 or 18.3% of the total number in which a non-fatal embolism was the first or only episode, subsequent fatal embolism developed. In 471 cases, or 52.5% of the total (897), there was only one episode of embolism and this was not fatal. In 90 of these, subsequent thrombosis without embolism developed.

On the basis of above data the following probabilities from the standpoint of clinical diagnosis can be stated: (1) If a patient who has had an operation has non-fatal pulmonary embolism, he has slightly less than one chance in five of subsequent fatal pulmonary embolism. (2) About three chances in 10 of subsequent embolism, fatal or non-fatal and slightly less than one chance in five of subsequent fatal pulquent thrombotic or embolic episode. If all fatal embolisms which were preceded by a clinically diagnosed non-fatal embolism could be prevented, the total number of the fatal embolisms would be reduced by more than a third.

IV-Location of Thrombosis: Of the 1665 cases studied, 405 (or 24.3%) had pulmonary embolism without clinical evidence or findings at necropsy of venous thrombosis. In as much as the emboli found in the pulmonary arteries in cases which came to autopsy, were large and in nearly all cases appeared to have come from the large veins, it is assumed, that the entire thrombus detached itself and became an embolus, leaving no clue to its source. In the remaining 1260 cases (1665-405) venous thrombosis was found in 1401 locations. It is noteworthy that post-operative venous thrombosis occurred rarely in the head, neck and upper extremities and that more than 85% of the locations were in the lower extremities. Most of the intra-abdominal venous thromboses were found in the pelvic veins in women, the prostatic veins in men, and in the mesenteric, portal and splenic veins.

V-Studies on the rate of venous blood flow and its relation to post-operative venous thrombosis and pulmonary embolism: L. A. Smith and E. V. Allen have recently made some very interesting observations on the venous blood flow in the upper and lower extremities by the Sodium cyanide method. In the course of their study it soon became apparent that the most important influence on the circulation time was the temperature of the skin of the extremities. Speed of blood flow from an extremity to the carotid sinus is decreased when the skin of the extremity is cool and increased when it is warm.

VI-Pulmonary Embolism: Regardless of whether vasodilatation is produced reflexly by heat, by direct application of heat, by ingestion of alcohol or by sympathectomy, the speed of blood flow depends on the temperature of the skin. The minutes of rapid active movement of the leg while the person lay in supine position invariably increased the speed of flow, whereas such exercise of the arm did not do so. Elevation to a 30 degree angle of extremities of supine subjects invariably decreased circulation time (increased blood flow). Sympathectomy decreased circulation time. Administration of Strychnine sulphate decreased the foot-carotid circulation time in some instances.

There is a definite decrease of the average foot carotid circulation time during the few hours after operation. Two days after operation the average foot—to—carotid circulation time is greater than the preoperative average. Beginning about the 5th day after operation foot carotid circulation time increased (blood slowed), gradually to a value which at the 10th post-operative was approximately 50% greater than the preoperative average.

In 1927 William Walters suggested the use of thyroid extract in an attempt to prevent post-operative slowing which he assumed to be present. By this method he was able to reduce the incidence of fatal pulmonay embolism.

"It seems more than a coincidence that the period of maximal slowing of venous circulation in the legs corresponds to the period in which phlebitis and pulmonary embolism occur most commonly. The source of most emboli after operation is from the lower extremities. Certainly that is where phlebitis occurs almost solely after operation. Authors do not believe that slowed venous circulation is the sole cause of post-operative thrombosis but it may be a very important one."

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

At the annual meeting of the Chicago Dermatological Society, held January 20, 1943, the following officers were elected: President, Dr. Michael H. Ebert; Vice-President, Dr. F. W. Lynch of St. Paul, Minnesota; Secretary-Treasurer, Dr. Marcus R. Caro.

At the November meeting of the Chicago Urological Society, Dr. Russell D. Herrold was elected Secretary-Treasurer, to take the place of Dr. Irving J. Shapiro who is in active service with the Navy.

In the first "V Mail" received by the Illinois Medical Journal, Captain Kenneth L. Matson M.C. writes, "Thank you so much for the Journal. Would appreciate having you correct my mailing address to the A.P.O. listed above. Even though we may leave our present location of England, I believe the above address will avoid delay."

Lieutenant Hanford L. Auten of the School of Aviation Medicine, Randolph Field, Texas writes the Journal as follows, "The last issue was very good and your proof reader isn't missing so many."

The Senate has confirmed the appointment of Dr. Paul C. Barton, Director of the Bureau of Investigation of the American Medical Association, as assistant director for Procurement and Assignment Service in the Bureau of Placement of the War Manpower Commission, it was announced in Washington, D. C. on February 16th. Dr. Barton has been with the American Medical Association eight years and for the past four years has been head of the Bureau of Investigation.

Dr. Richard J. Bennett, Jr. has been appointed as Chief Surgeon, Chicago District, Carnegie-Illinois Steel Corporation. He succeeds Dr. Philip H. Kreuscher who is retiring to devote his entire time to his private interests. Dr. Bennett has been connected with this United States Steel Corporation subsidiary since January 1, 1937 when he was appointed Associate Chief Surgeon. He is a member of the staffs of the Wesley Memorial and Little Company of Mary Hospitals, the American, the Illinois State, and Chicago Medical Associations, and a Fellow of the American College of Surgeons. In 1940 he was granted a certificate of qualification by the American Board of Surgery.

Dr. Nita M. Arnold, former Chicago psychiatrist, is a contract surgeon with the rank of first lieutenant at the First WAAC Training Center, Fort Des Moines, Iowa. She is under contract with the Surgeon General of the Army. Dr. Arnold was born in Buenos Aires, Argentina in 1898 and graduated at the Friedrich-Wilhelms-Universitat Medizinische Fakulat, Berlin, Prussia, in 1930.

The Institute of Medicine of Chicago announces that the Joseph A. Capps Prize for Medical Research for 1942 has been awarded to Dr. Mary E. Martin, who graduated at Northwestern University Medical School in 1941, for her investigation on "Distribution of Nerves in

the Adult Human Myometrium." The prize is awarded annually to a young graduate of a Chicago medical school for the most meritorious investigation in medicine or in the specialties of medicine.

The Livingston County Medical Society met on February 18th at the Livingston County Sanatorium, Pontiac. I. A. Abt, M.D., Professor of Pediatrics, Northwestern University, author of "Yearbook on Pediatrics" and internationally famous clinician, was the principal speaker. He was introduced by Dr. J. D. Scouller who also introduced him fifteen years ago this month when Dr. Abt spoke before the local Parent Teacher Association." The topic of the evening was "Sulfa Drugs in the Treatment of Children."

COMING MEETINGS

May 18, 19, 20 — ANNUAL MEETING ILLINOIS STATE MEDICAL SOCIETY, Palmer House, Chicago.

March 2 — Williamson County Medical Society, Herrin, Evening, Max Hirschfelder, M. D. — "Advances in the Diagnosis and Treatment of Ocular Conditions During Recent Years"

March 3 — Hospital Staff, Beardstown, Evening, Mary Louise Newman, M. D. "Use of Vitamin K in Obstetrics"

March 5 — Will-Grundy County Medical Society, Louis Joliet Hotel, Noon — Edward L. Compere — "Kenny Treatment of Infantile Paralysis"

March 9 — Kankakee County Medical Society — Club Rooms, Kankakee, Noon — Albert VanderKloot, "The Anemias"

March 9 — McLean County Medical Society — Bloomington — Evening

March 11 — LaSalle County Medical Society — Kaskaskia Hotel, LaSalle, Dinner at 6:30 — A. VerBrugghen, M. D. "Herniated Nucleus Pulposus"

March 12 — Jersey-Greene County Medical Society — Evening

March 17 — DuPage County Medical Society — Elmhurst Community Hospital, Elmhurst — Dinner 6:30 — Paul H. Holinger, M. D. — "Bronchoscopy in Diseases of the Respiratory Tract, Illustrated with Kodachrome Motion Pictures"

March 19 — Will-Grundy County Medical Society — Louis Joliet Hotel, Joliet, Noon, Harry L. Huber, M. D. — "Problems in Allergy"

March 23 — Macoupin County Medical Society — Carlinville — 6:30 P. M.

March 26 — Will-Grundy County Medical Society — Louis Joliet Hotel, Joliet, Noon, William B. Serbin, M. D. — "Obstetrics"

April 6 — Williamson County Medical Society — Herrin, Evening

April 8 — LaSalle & Bureau County Societies — LaSalle — Evening

April 13 — Kankakee County Medical Society — Kankakee, Club Rooms, Noon, Frank F. Maple — "Obstetrics"

MARRIAGES

Frank J. Cerny, Berwyn, Ill., to Miss Viola McNeel in Chicago, November 8.

Dale A. Rold to Miss Mary Louise Stropes, both of Chicago, December 23.

DEATHS

Albert G. Aschauer, Springfield; University of Illinois College of Medicine, 1909. Veteran of World War 1 and ophthalmalogist in Springfield for 25 years. Died February 19, 1943 at the age of 64.

Alexander A. Backiel, Chicago Heights; Chicago Medical School, 1928. Was medical officer for Selective Service Board 96. Died February 1, 1943 at the age of 43.

Captain John P. Boland, Camp Jackson, South Carolina, formerly of Chicago; Rush Medical College, 1928. Died recently at the age of 41.

John V. Dillman, Louisville; Missouri Medical College, St. Louis, Missouri, 1899. Died February 12, 1943 at the age of 73 years.

Cornelius J. Donovan, Lovington; St. Louis College of Physicians and Surgeons, 1893. Had practiced medicine fifty years. Died January 29, 1943 at the age of 72.

Alonzo Glass, Creal Springs; Marion-Sims College of Medicine, St. Louis, Missouri, 1897. Died January 16, 1943 at the age of 83.

Fannie Lanham, Chicago; Chicago College of Medicine and Surgery, 1913. Former physician and surgeon at the Women's and Children's Hospital in Chicago and one of the first woman physicians of the State. Died January 27, 1943 at the age of 75.

Albert N. Mackey, Aledo; Bellevue Medical College, New York City, 1893. In World War 1, served as a First Lieutenant. Was Secretary of Mercer County Medical Society for many years. Died of a heart attack on February 11, 1943 at the age of 80.

Sydney C. Moore, Benton; Loyola University School of Medicine, 1921. In World War 1 he enlisted in the U. S. Medical Corps, serving in the Intelligence Department. Died January 30, 1943 at the age of 54.

Frederick J. Rathbun, New Windsor; Rush Medical College, 1913. Past president of the Mercer County Medical Society and had served for several years on the Mercer County Tuberculosis Board of Control. Died January 28, 1943 at the age of 55 after an illness of a week.

Albert E. Swartz, Chicago; University of Illinois College of Physicians and Surgeons, 1895. Had practiced medicine in Chicago for forty years. Died February 4, 1943 at the age of 67.

Walter R. Titzel, Chicago; Chicago Homeopathic Medical College, 1888. Member of the Chicago Medical Society for fifty years. Died from a heart ailment January 27, 1943 at the age of 77.

Frederick George Vogel, Waterloo; St. Louis University School of Medicine, 1906. Died following an extended illness on January 30, 1943 at the age of 54.

Carl B. Wagner, Chicago; Illinois Medical College, 1909. Practiced medicine in Chicago nearly forty years. Died February 1, 1943 at the age of 66.

Thomas H. Wagner, Joliet; Northwestern University Medical School, 1898. For many years surgeon for the American Steel and Wire Company and the Rock Island Railroad. Chief of Staff of St. Joseph's Hospital, Joliet. Died January 18, 1943 at the age of 68.

John T. Welch, Chicago; Chicago Homeopathic Medical College, 1901. Practiced in Hyde Park for 40 years. Died February 6, 1943 at the age of 77.

Katharine Woltmann, Delavan; The Hahnemann Medical College and Hospital, 1904. Died January 12, 1943 at the age of 81.

EDC CAMPAIGN

The EDC — Early Diagnosis Campaign — is an educational campaign conducted one month out of each year. It is one part of the balanced tuberculosis and health education program carried on by the National Tuberculosis Association and its affiliated associations. There is no single procedure which will assure victory in the campaign against tuberculosis. Many services and activities have to be created and coordinated in this campaign.

In the tuberculosis program, Health Education goes on all year long. The year-round effort aims to teach people ALL the facts about tuberculosis which the public should know. The EDC, however, teaches only ONE specific fact or group of facts, namely, the current EDC theme. The campaign theme selected by a committee representing all parts of the nation, is applicable to any community. The EDC is the time when all tuberculosis associations are doing the same thing at the same time. Unity of purpose is what makes the EDC a powerful educational influence.

The Theme for the 1943 Early Diagnosis Campaign IS —

FOLLOW THE EXAMPLE OF THE ARMED FORCES — GET A CHEST X-RAY.

HEREDITY AND CANCER

(Jas. Ewing, New York City, in *Bul. Amer. Soc. for the Control of Cancer,* Aug.)

Daughters of mothers who had cancer of the breast are more likely to develop this disease than the average woman. The hereditary tendency to cancer affects, not the body as whole, but only the particular organ (breast, uterus); or the particular system, as the skin or the mucous membranes lining the gastrointestinal tract, in which the cancer in question had occurred. Thus cancer of the breast in one person indicates an increased tendency to cancer of that organ in the mothers and sisters, but has no relation to cancer of any other organ.

When cancer of the breast occurs in one member of the family the sisters in that family are more prone to develop cancer of the breast than is the average woman (in the proportion of about 4 to 1); and the same rule may be stated for cancer of the uterus, but less definitely.

The best example of a hereditary cancer is glioma of the retina. This disease occurs in infants, chiefly before the 4th year, and most of the children in the family are affected — in one recorded instance 10 of 16 children, and in another all of 8 children.

Hereditary susceptibility is probably an essential condition in the occurrence of all tumors. The disease itself is not transmitted, but only the tendency. These tumors are not preventable but they may be detected early and often cured.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

SEASONABLE SONNETS

MARCH

With boistrous, roaring, howling, freezing days
All interspersed with balmy gladsome ones,
The month of March pursues tempestuous ways
Through which despair or hope alternate runs.
In ancient times it had its fatal Ides,
In modern times it has St. Patrick's day,
In casualties of each quite coincides —
In keeping with the month we act that way.
In March comes Lent; we penitently learn
How deep the groove of habit has been worn;
When over, ancient habits all return,
Yet abnegation seems a thing inborn.
If maniac or depressive signs appear
Just blame it on this crazy time of year.

COLOR BLIND

I gaze upon the sunset's glow
Of gorgeous hues that all remind
That I should be a thankful soul,
I am not color blind.
I see bright flowers and birds and trees
Of every color, size and kind,
And offer up a grateful prayer,
I am not color blind.

L'Envoi

I look at women's painted lips,
At cheeks and nails and find
That after all it might help some
If I *were* color blind.

I love the hippopotamus
He's shaped so much like me
And like the hippopotamus
I cannot climb a tree,
And yet I laugh with glee, sir,
At human shapes I see;
I think those awful skinny ones
Are worse a lot than we.

HER LUGGAGE

She can pack all her luggage completely,
And each time her skill seems to increase,
It's a task done so deftly and neatly
There is never a wrinkle or crease.
And each bag is so swank and artistic
That she walks with the haughtiest stride,
In their fashions and styles modernistic
They are objects of justified pride.
Yet there's always one minor deflection,
It is there without question or doubt,
When the red-cap walks down to her section,
There is always a string hanging out.

PATHOLOGICAL SONNETS

ASTHMA

I wake from troubled sleep in wildest fright,
In dread and panic gasp and try to breathe,
I stifle, choke and smother in my plight,
And terrorizing fears within me seethe.
For countless hours I strain and cough and wheeze,
In apprehension struggle and protest,
I'm in despair for nothing will appease
These vicious demons gripping at my chest.
The long gaunt arm of heritage can reach
From out the past to strangle and oppress;
I hoarsely damn allergic forbears each,
As I, dyspnoeic, suffers such distress.
Throughout an endless night I fight for breath
Regretting asthma rarely causes death.

Sophistes the Seer sayeth, "Prate not against changing things. It was Aristotle who asserted that there is nothing permanent but change and nothing certain but that everything is uncertain."

TANTALUM FOR REPAIRING SKULL DEFECTS

Experimental studies indicate that the metal tantalum is a satisfactory material for the repair of defects of the skull, Lieut. (j. g.) Robert H. Pudenz, Medical Corps, U. S. Naval Reserve, reports in *The Journal of the American Medical Association* for February 13.

Tantalum is an element, the seventy-third in the periodic table. It is a bluish white metal resembling steel in its physical properties and glass in its chemical characteristics. It has an atomic weight about three times that of iron.

Lieutenant Pudenz says that "It has the desirable qualities of noncorrosiveness, inertness in tissue, nonabsorbability, absence of toxic (poisonous) ingredients and malleability. This last quality enables the surgeon to form the flat tantalum sheet to the desired contour at the operating table. In view of these characteristics, the use of this metal should be considered in the repair of many of the cranial defects which will inevitably occur as a result of craniocerebral (skull and brain) injury in the present war, and particularly in those repairs in which a satisfactory cosmetic result is of utmost importance."

Exigency of War

OLEUM PERCOMORPHUM 50% is now known as Oleum Percomorphum 50% with Viosterol. This product consists of the liver oils of percomorph fishes, viosterol, and fish liver oils, a source of vitamins A and D in which not less than 50% of the vitamin content is derived from the liver oils of percomorph fishes (principally Xiphias gladius, Pneumatophorus diego, Thunnus thynnus, Stereolepis gigas, and closely allied species).

In compliance with War Production Board Order L-40, to conserve vitamin A supplies during wartime, capsules of Mead's Oleum Percomorphum 50% With Viosterol now contain 83 mg. of oil, equivalent to 5,000 vitamin A units and 700 vitamin D units per capsule.

The new size capsule is now supplied in boxes containing 48 and 192 capsules—about twice the number of capsules without increase in price to the patient.

Contrary to rumors, the potency remains the same; namely 60,000 vitamin A units and 8,500 vitamin D units per gram.

MEAD JOHNSON & CO., EVANSVILLE, IND., U.S.A.

Book Reviews

Orthopaedic Subjects — Military Surgical Manuals. National Research Council. W. B. Saunders Company, Philadelphia and London. 1942.

This is another of the series of Military Medical Manuals which have been prepared for publication under the auspices of the National Research Council for the medical officers in the armed forces. Like others of this series, a foreword is published over the signatures of the Surgeons General of the U. S. Army and U. S. Navy, both of whom state that the Manual contains practical and essential information, readily accessible, and should be a real help to the medical officer.

Although primarily prepared to serve as a text for military medical officers, the book covers those subjects in orthopaedic surgery which are encountered during war, and practically all of them are of general interest to those physicians remaining in civilian practice. Under the chairmanship of George E. Bennett, the book was prepared by a team of twelve associates, all prominent in the present day orthopaedic field.

The first five chapters are devoted to the consideration of ununited fractures, injuries to the spinal column, compound fractures, and osteomyelitis. Realizing that there are many generally accepted methods of treatment used in these several conditions, more emphasis is placed on the minimum requirements rather than the many modern appliances which are used by individual orthopaedic surgeons, many of which are not generally available on the military front.

The book is well written; the subjects are described briefly although in sufficient detail as to make it of immense value to the busy surgeon who desires information quickly with a minimum loss of time.

The Military Surgical Manuals are indeed a valuable contribution to the recent literature, and should be of much value to the busy surgeon not only in military service, but also for the many who are called upon to treat orthopaedic conditions in civilian practice.

The Answer is Your Nerves. Arnold S. Jackson, M.D., Kilgore Printing Company, Madison, Wisconsin 1942. Price $2.00.

This book is well written and carries along those modern principles of the increasingly popular subject of psychomatic medicine. During these troublesome times with the world at war, there are more people who are showing some of the minor ailments which in normal times would be considered within the field of psychiatry, and some allowance must be made for these unusual conditions, as is recognized in this book.

These conditions must be treated appropriately by whatever method seems preferable for each individual case. The author recognizes this fact, although not posing in any sense of the word as a psychiatrist.

The book is rather unique in that it can be enjoyed and understood by both the physician and the patient. Although perhaps not adding anything materially to the store of medical knowledge, it is fascinating reading and deserves a place on the modern book shelf.

THE YEAR BOOK OF INDUSTRIAL AND ORTHOPAEDIC SURGERY. The Year Book Publishers, Inc., Chicago. Price $3.00.

The 1942 Year Book of Industrial and Orthopaedic Surgery is another book in the Practical Medicine Year Book series which will give much information to the busy man interested in this line of work. Well in keeping with the present times, a considerable amount of material has been added to make the book even more practical than usual, as it deals with many problems encountered in the medical services of modern warfare.

More consideration than ever before is given to the uses of the sulfonamides and other forms of chemotherapy. The editor states that in his previous edition on this subject he purposely limited references to the use of these drugs as their real value had not been definitely determined and he had feared that they might be used indiscriminately in many conditions where the use might be unwarranted or even dangerous. He preferred to wait until such a time as their true value had been determined.

The book covers the field of industrial and orthopaedic surgery giving the views on many writers on these subjects. The subjects of tuberculosis of bones and joints, osteomyelitis, etc., are well discussed and much information in concise form is available for the reader.

The second part of the book deals with the subjects in Industrial Medicine and Surgery which likewise is of greater interest at this time than ever before to the members of the medical profession as a whole.

SULFANILAMIDE AND RELATED COMPOUNDS IN GENERAL PRACTICE. Wesley W. Spink, M.D., Associate Professor of Medicine, University of Minnesota Medical School. The Year Book Publishers, Inc., Chicago. Price $3.00.

The rapid developments in sulfonamide therapy has led to a complete revision of this interesting book within a very short period of time. These drugs are being used in all branches of medicine, and additional members of the sulfa group have been added since the previous edition was released.

The author has reviewed the experience through the use of these drugs in more than 2,000 cases at the University of Minnesota hospitals, and has called upon the heads of the departments of these institutions for information on the use of the sulfonamides in their respective fields of practice.

Although their field of usefulness has increased rapidly within recent months, the author gives the definite indications for each of the several types of the sulfonamides, and tells which is particularly desirable in the infectious conditions for which they are used. Realizing that the drugs are now used orally, parenterally, intra-abdominally and locally, this edition gives in detail these various types of therapy which will be of interest to many readers.

Warnings are issued throughout the book relative to the toxic reactions which are occasionally encountered, and the methods of safeguarding the patient against these dangers are discussed. Also the indiscriminate use of the sulfonamides in many conditions in which they offer but little or no relief is thoroughly covered.

Any physician will find this timely book a valuable addition to his modern library, and the book should be made available for frequent reference.

THE MEDICAL CLINICS OF NORTH AMERICA. W. B. Saunders Company, Philadelphia and London. Published bi-monthly. Price $16.00 cloth; $12.00 paper per year, (six issues).

November, 1942: "Philadelphia number." Symposium on Endocrinology with introduction by Charles W. Dunn, M. D., and with 15 excellent articles on this important subject.

January, 1943. "Chicago number." First part of book, "Symposium on Office Gynecology with articles on the various problems under this subject by Drs. Joseph L. Baer; Edward Allen; J. Greenhill; Herbert E. Schmitz; Irving F. Stein; Fred L. Adair and Lucile R. Hac; Harry O. Maryan and A. E. Kanter.

The second part, clinics on other subjects, consists of interesting clinical discussions of "Left Ventricular Failure versus Right Ventricular Failure" by Robert S. Berghoff, Angelo S. Geraci and Donald A. Hirsch; "Uses and

(Continued on page 34)

BOOK REVIEWS (Continued)

Abuses of Digitalis" by J. Bailey Carter; "Human Serum and Plasma" by Albert M. Wolf and Sidney O. Levinson; "Sulfonamides; Clinical Evaluation in Infectious Diseases of the Colon" by M. H. Streicher; "Differential Diagnosis of Duodenal Ulcer" by Leon O. Jacobson and Walter L. Palmer; "The Prevention and Management of Complications in Anorectal Surgery" by Thomas J. Merar; "Treatment of Common Forms of Renal Disease" by Louis Leiter; "Leukemia, Symptomatology and Treatment" by Raphael Isaacs and, "Undulant Fever" by Robert O. Levitt.

Any of these interesting volumes will give many hours of fine reading which will likewise be highly instructive. The Clinics, more now than previously, should be in the hands of every progressive physician endeavoring to keep up with the "times."

Medical Parasitology. By James T. Culbertson. Assistant Professor of Bacteriology, College of Physicians and Surgeons, Columbia, University. Columbia University Press, 1942. New York. Morningside Heights. Price $4.25.

The author states that the human infections caused by animal parasites are generally thought of as tropical diseases. A little thought on the subject however, will convince the most skeptical that some of these diseases are among the most serious health problems of the health services of our own country. The writer makes a plea for a greater consideration of these diseases in our modern medical schools, and at this time with our American armed forces on so many distant fronts, even the tropical diseases are worthy of a greater consideration than ever before.

The book deals with the many parasitic animals which cause human disease, the manner by which they establish themselves upon the human host, the manner in which they cause disease, and the more recent developed methods of diagnosis and treatment of these various conditions.

The volume is divided into three parts: first, an introduction with general considerations as to the infections, epidemiology, immunity, diagnosis, specific therapy and prophylaxis. Second, consideration of the numerous infections caused by animal parasites with essential data concerning each of the parasitic infections discussed. In the third part of the book consideration is given in much detail relative to the many technical methods by which the parasites are studied and infected tissues preserved to the best advantages.

An extensive bibliography is appended giving the reader information on the literature on this subject. The book is presented as a textbook for medical students and a handbook for medical practitioners. It should be of much value to each of these groups.

Health Education of the Public. A Practical Manual of Technic. W. W. Bauer, M.D., and Thomas G. Hull, Ph.D. W. B. Saunders Company, Philadelphia and London. 1942. Price $2.75.

This is the second edition of this book which is intended to be a practical manual of technic for giving the much needed health education to the public. Physicians endeavoring to appear before lay audiences to present health subjects intelligently will find the book of much value indeed. The accessories desired to present such subjects are discussed in some detail. Among these, health exhibits and their value as an aid to get the desired information before the public, the radio talks, pamphlets, posters, etc. are all given the proper consideration.

The authors have given much thought to their subject and have presented it in a manner which will appeal to those interested.

Problems of Ageing. Biological and Medical Aspects. Edited by E. V. Cowrdy, Ph.D., 972 pages, 129 illustrations. The Williams and Wilkins Company, Baltimore, Maryland. Price $10.00.

The problems of ageing are of intense importance at this time when so many of the younger men are in military service and there is an ever increasing demand for manpower throughout the country. Many of the older men who are physically fit are being used in essential endeavors, and physicians should attempt to do everything possible to help these ageing men, to increase their usefulness in the present emergency.

(Continued on page 36)

Give the cigarette they prefer to get*



IT'S EASY to understand why cigarettes are the preferred gift in the armed services. But did you know that among them the best-liked brand* of cigarette is Camel? Camel is the popular choice of millions and millions of smokers for its finer flavor and superior mildness.

Send Camels, the service man's favorite, to those friends or relatives who are fighting our battles —fighting them efficiently and unselfishly. Your thoughtfulness will be appreciated.

Tobacco stores feature Camels by the carton. See or telephone your dealer today.

Remember, you can *still* send Camels to Army personnel in the U. S., and to men in the Navy, Marines, or Coast Guard *wherever they are.* The Post Office rule against mailing packages applies only to those sent to the overseas Army.

* With men in the Army, the Navy, the Marine Corps, and the Coast Guard, the favorite cigarette is Camel. (Based on actual sales records in Post Exchanges and Canteens.)

Camel

costlier tobaccos



BOOK REVIEWS (Continued)

Dr. Cowdry in the second edition of this book, deals extensively with the biological and medical aspects of this important subject. The services of no less than thirty-six authorities have been utilized in making this exhaustive treatise, and every angle of the problem has been discussed carefully. Much attention is given to the many clinical problems in connection with ageing processes.

The effects of ageing on the many organic and anatomic structures of the body are considered thoroughly, and the many things which can be done to help this ever-increasing group are described in detail.

The book is well written and is fascinating reading. It will be of much interest not only to the practicing physicians who are anxious to do everything possible, but likewise should be of intense interest to the biologists and others who are interested in the many problems concerning the processes of ageing.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

Endoscopic Prostatic Surgery. By Roger W. Barnes, M.S., M.D., F.A.C.S., Professor of Clinical Urology, College of Medical Evangelists; Chief of Urology Service, White Memorial Hospital and Out Patient Clinic; Senior Attending Surgeon, Los Angeles County Hospital; Consulting Urologist, Glendale Sanitarium Hospital, Glendale, Harriman Jones Clinic Hospital, Long Beach, Southern Pacific Company, Associated Oil Company, Los Angeles Railway Company, and Los Angeles County Farm. With 104 illustrations. The C. V. Mosby Company, St. Louis, 1943.

Obstetrical Practice. By Alfred C. Beck, M. D., Professor of Obstetrics and Gynecology, Long Island College of Medicine; Obstetrician and Gynecologist-in-chief, Long Island College Hospital, Brooklyn. More than one thousand illustrations. Third edition. The Williams & Wilkins Company, Baltimore. 1942. Price $7.00.

The Medical Clinics of North America. The Chicago Number. January, 1943. W. B. Saunders Company, Philadelphia and London. Copyright, 1943, W. B. Saunders Company. Published Bi-Monthly.

A Textbook of Clinical Neurology. With an Introduction to the History of Neurology. By Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University, New York; Neurologist, The Mount Sinai Hospital; Consulting Neurologist, The Montefiore and Rockland State Hospitals, New York. Fifth Edition, Revised. W. B. Saunders Company. Philadelphia and London, 1943. Price $7.50.

The Anatomy of the Nervous System. From the Standpoint of Development and Function. By Stephen Walter Ranson, M.D., Ph.D., Formerly Professor of Neurology and Director of Neurological Institute, Northwestern University Medical School, Chicago. With 408 Illustrations, Some of them in color. Seventh Edition, Revised. W. B. Saunders Company, 1943, Philadelphia and London. Price $6.50.

Indigestion. Its Diagnosis and Management With Special Reference to Diet. By Martin E. Rehfuss, M.D., Professor of Clinical Medicine and Sutherland M. Prevost Lecturer in Therapeutics, Jefferson Medical College, Philadelphia. W. B. Saunders Company, Philadelphia & London, 1943, Price

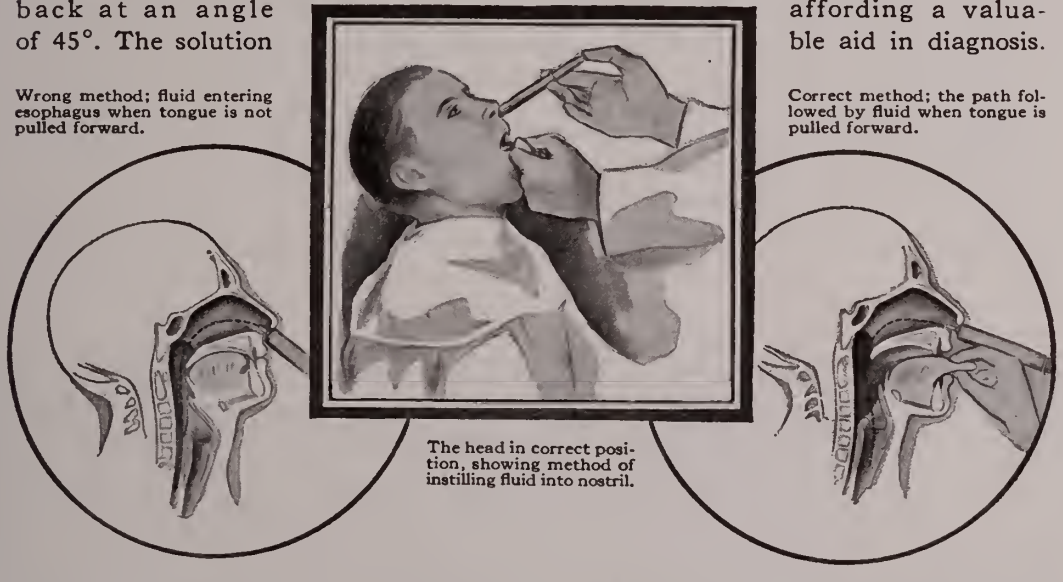
To attend school, the young man or woman must be properly clothed. If his clothing becomes soiled or torn it should be cleaned and mended but the tailor's work, though valuable, is no part of education. Likewise, to profit in school training youth should be clothed in health. If health is impaired it must be repaired. But the medical sponging and patching are neither education nor hygiene, though the methods used in such repair may be, and are, increasingly educational. Ed. News Letter Loyola Univ., Jan., 1942.

TECHNIC OF LIPIODOL INSTILLATION

BRONCHOGRAPHY

Method of Forestier

In the visualization of the bronchial tree, the pernasal method described by Forestier* in 1934 possesses several advantages. No special instruments are required; the patient is subjected to a minimum of discomfort; the technic is easily carried out. The tongue is pulled forward, thus closing the upper end of the esophagus. A topical anesthetic solution is instilled into one nostril with the head tilted back at an angle of 45°. The solution finds its way through the open glottis into the trachea and bronchi. The warmed Lipiodol is instilled after five minutes, and the position of the patient is adjusted according to the portion of the bronchial tree which is to be visualized. With Lipiodol (iodized poppyseed oil containing 40 per cent iodine in chemical combination), brilliant roentgenograms of the bronchial tree ramifications are produced, affording a valuable aid in diagnosis.



Wrong method; fluid entering esophagus when tongue is not pulled forward.

The head in correct position, showing method of instilling fluid into nostril.

Correct method; the path followed by fluid when tongue is pulled forward.

The complete description of the method of Forestier* in bronchography, as well as the many other valuable applications of Lipiodolography, are graphically presented by text and illustrations, in a new brochure "The Applicability of Lipiodol in Roentgenography and the Technic of its Use." Physicians are invited to send for a complimentary copy.

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*Forestier, J., and Leroux, L.: Simplified Method of Bronchography, Radiology 24:743-744 (June) 1935.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

E. FOUGERA & CO., Inc., *Distributors*
75 Varick Street New York, N. Y.

LIPIODOL (LAFAY)

Lipiodol is supplied in a variety of ampule sizes and in a 20cc. vaccine type vial for economy of use.

WARN OF FORM OF HOME SICKNESS SOMETIMES FOUND IN RECRUITS

Cryptic Or Hidden Nostalgia, Three Authors Say, Is A Home Fixation Which Is Easily Confused With Simple Schizophrenia

In examining recruits a condition which they term cryptic or hidden nostalgia, which is a home fixation rather than a home sickness, should be kept in mind, as it is easily confused with simple schizophrenia (split personality) or mental deficiency, Lieut. Comdr. C. L. Wittson, Lieut. Comdr. H. I. Harris and Lieut. W. A. Hunt, Medical Corps, United States Naval Reserve, advise in the current issue of *War Medicine*, published monthly by the American Medical Association in cooperation with the Division of Medical Sciences of the National Research Council. "When present during the training period," they say, "it interferes with efficient performance and may lead to disciplinary difficulties. Insight is easily acquired, however, and a single interview with a psychiatrist usually suffices to return a recruit to efficiency."

The authors explain that "nostalgia is a constant problem in any military training center receiving men in the first days of their service. In the Navy this problem is aggravated by the youthfulness of the volunteers, since the Navy will accept recruits of 17, and many join at this age. For many of them it means not only the first journey away from home but a journey into a new, strange, confusing world. At present nostalgia is furthered by the fact that most recruits, while enlisting voluntarily, do so only because of the necessities of war and leave their home ties with reluctance. Moreover, the uncertainties of war are such as to accentuate the severing of connections with home and friends.

"A patient with the usual nostalgia presents the familiar sign of a person with a mild reactive depression. He is depressed and mildly retarded. There are well marked overt signs of emotion, which frequently include agitation and tearfulness. Insight is present, and the recruit realizes that he is missing home and family and frankly desires to return to them. This type of nostalgia is usually benign and open to simple therapy [treatment].

"It is not this usual type of nostalgia that we wish to discuss here, but rather a significant variation which because of its cryptic nature and lack of clear overt symptomatology we have called 'cryptic nostalgia.' Cryptic nostalgia does not have the familiar characteristics of ordinary nostalgia. A man with this disorder is not agitated and depressed. He may appear somewhat apathetic and preoccupied, but in general he gives the impression of accepting his environment and of not being displeased with it. There is no obvious affective disturbance. Finally, he has no insight into his condition and does not realize that something is wrong.

"On the positive side, he can be described as a person who has not as yet severed his ties with home and is completely immersed in thoughts of family and friends. He is literally a person with 'something on his mind,' and that something is present to the exclusion of everything else. This continual preoccupation with thoughts of home and friends causes an air of abstraction. The subject appears absentminded and vague and is slow in responding. He has trouble in paying attention, finds it hard to concentrate on the task at hand and may fail to carry out his routine duties efficiently. He himself has no understanding of his difficulties and cannot comprehend the reason for his failure to measure up to the standard expected of him. . . ."

The three authors explain that men with such a condition, on the intellectual side, may do poorly when given an intelligence test and resemble mentally deficient persons in performance, but that the school history rarely agrees with a diagnosis of mental deficiency.

"When cryptic nostalgia is present during the recruit's training period," the authors say, "it may result in a definite maladjustment. The subject has trouble learning, fails to carry out orders, is careless, is found dirty at inspection and is generally unreliable. In contrast to the actual picture, however, he does give the impression of being emotionally adjusted and of trying to adapt. Frequently the lad's company commander (the petty officer in charge of his group) will say 'This man seems to be bright enough and seems to be trying, but he just can't do anything correctly.' . . ."

In other words, they point out, such a recruit simply is unable to get his mind off home, and he continues to live in the old environment rather than actively merging himself with the new one.

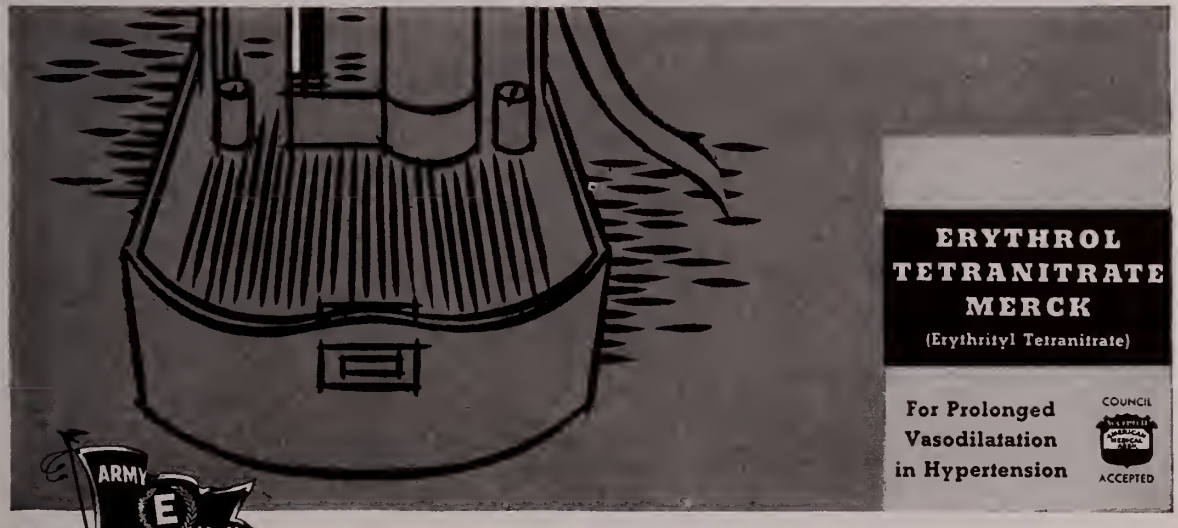


when rest has been *unsuccessful*

The vasodilator action of Erythrol Tetranitrate suggests it as an adjunct to rest and other measures when these have been unsuccessful in controlling arterial hypertension. Producing a vasodilatation which persists for several hours, following the administration of a single, therapeutically effective dose, Erythrol Tetranitrate causes a reduction in blood pressure sufficiently prolonged so that administration three times daily may maintain the reduction. It may be prescribed over a protracted period with sustained effect.

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PHYSICAL DEFECTS NO BARRIER TO MILITARY SERVICE IN THIS WAR

Hygeia Writer Tells How Many Are Allowed To Serve Country Who In Previous Wars Would Have Been Barred From Army

A military opportunity for men with physical defects that in previous wars would have barred them from serving their country in the armed forces has been provided in this war through limited service, Will O'Neil, Chicago, explains in *Hygeia, The Health Magazine* for March.

"Last August the Army began taking men with physical defects that render them unfit for service in the combat branches," he says. "They have released thousands of more able bodied men for the shooting work of the Army, and their contributions to the success of the Army are by no means limited to kitchen service. Although not classified as combat troops, many of them are going across the seas with their outfits to serve in areas where the action is hottest. Others are remaining behind in jobs at posts and camps throughout the nation.

"Instead of the thirteen weeks of rugged basic training given general service men immediately after their induction into uniform, the limited service men are given a month's condensed but intensive introduction to the Army. The pattern for this introductory course, according to Major Gen. H. S. Aurand, commanding the Sixth Service Command, has been established at Camp McCoy, Wis."

Mr. O'Neil explains that the operations officer at Camp McCoy, Major William Lutz Krigbaum, is in charge of the Limited Service School, and that in its first month of operation it handled less than two hundred men but now it receives and discharges a thousand men a week, each of the graduates having been given a carefully planned, twenty-eight day program of training that fits him for immediate duty.

"About 65 per cent of the men going through the school were rejected for general military service because of poor eyesight," Mr. O'Neil continues. "They have from one tenth to one twentieth of normal vision, or they have only one eye. The great number of men wearing glasses is one of the noticeable features of the troops in the camp.

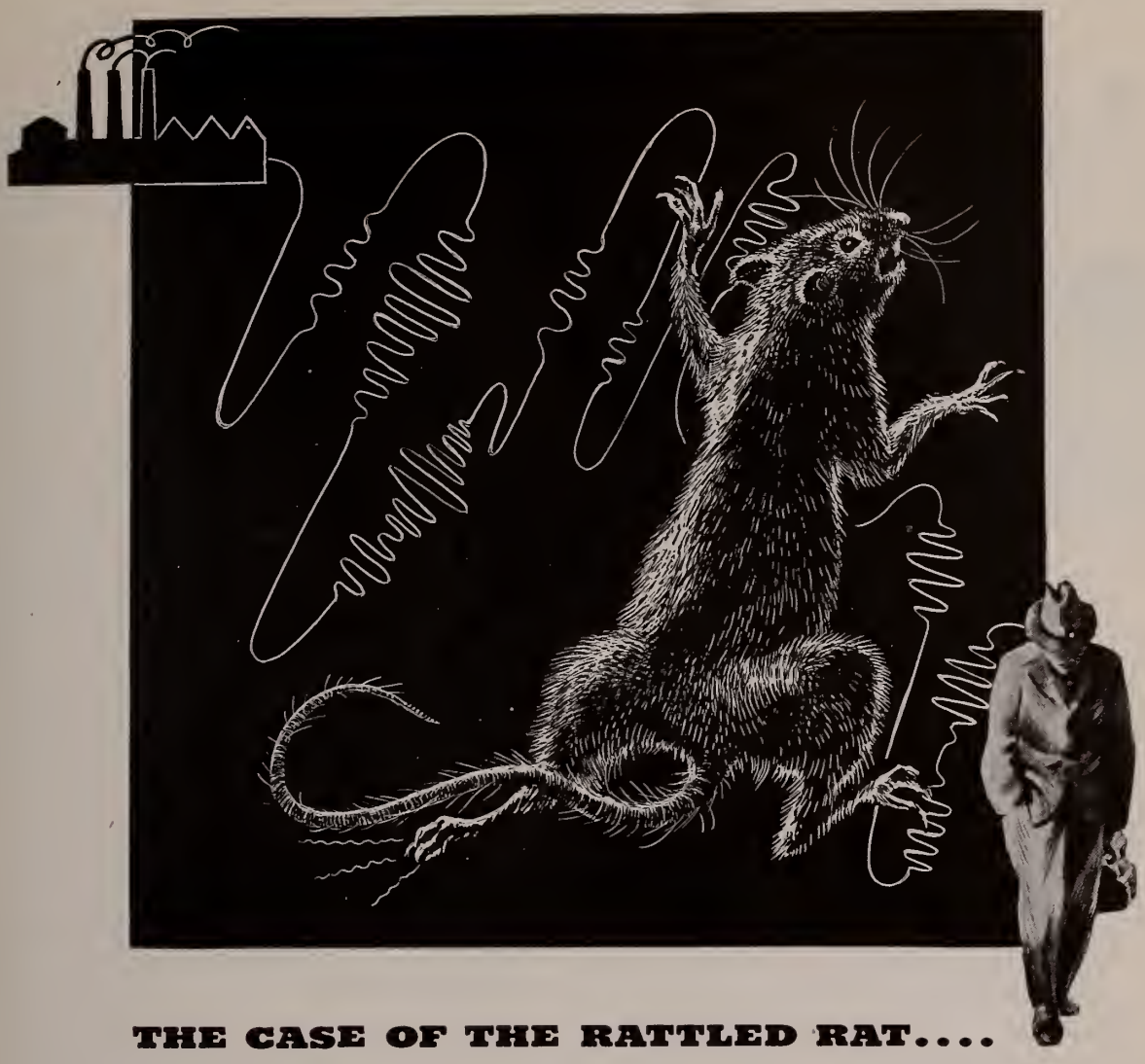
"Only a small number of men with eye defects can be reclassified for general service by the school's doctors. . . . Major Krigbaum is proud of the fact that 16 per cent of all the men who have physical defects other than those of the eyes have been 'reclaimed,' as he puts it, for general military service. . . . The reexamination and revaluation are done by a board of Army doctors. . . . The men who pass before this board have been classified for limited service because they are overweight or underweight, have missing fingers or slight deformities of the skeleton or extremities, are slightly crippled as the result of an old paralysis, have bad teeth, or have some other defect which does not bar them from service but does prevent their acceptance for combat duty. . . ."

The program of the school is designed to build up the condition of these men without imposing incapacitating strains on them, the author states. The limited service men seldom engage in physical activity for more than an hour or an hour and a half at a time. Periods of drill are separated by lectures or other similar periods during which the men are seated.

Illustrative of the effectiveness of the limited service program, Mr. O'Neil says, is the fact that among the ten thousand men who had passed through the camp at the time of writing, not one man had been reported absent without leave nor had there been any need for a court martial.

"The final step in the process," he observes, "is that of fitting the man into the job that he can do best. Although the combat branches, such as the infantry, artillery, cavalry, tank corps and so on, are closed to the limited service men, they are sent into all of the noncombat branches. . . ."

One of the greatest deficiencies in tuberculosis control programs has been the failure to make sufficient use of case-finding techniques in discovering the elderly person with undiagnosed pulmonary tuberculosis. There is much evidence that the older individual suffering from this disease frequently escapes recognition, and may act as a spreader of tuberculosis in the community for many years. Elderly tuberculous persons whose disease has become more or less stabilized may be robust, well-nourished and present an appearance of complete health. Many have only minor symptoms and frequently are able to work and to carry on a normal life. They often live out their natural life span, dying, not of tuberculosis, but of some entirely unrelated disease. R. E. Miller and Beatrice Henderson, Amer. Rev. of Tuber., Aug., 1942.



THE CASE OF THE RATTLED RAT....

• Recent experiments[1] have shown that convulsive seizures frequently occur in rats following brief exposure to a high-pitched note, and such reactions can be greatly reduced by the administration of Vitamin B-complex.

The implications of these findings are of clinical interest. It has not yet been determined whether individuals exposed to noise require more than ordinary amounts of the Vitamin B-complex, but it *is* known that men maintained on vitamin-deficient diets become easily fatigued and suffer from lassitude and loss of interest in work.[2] Moreover, deficiencies of the Vitamin B-complex constitute the most serious aspect of current, widespread malnutrition.

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1. J. Comparative Psychology, 31:1, 1941
2. American J. Public Health, 32:523, May, 1942

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SURGEON DESCRIBES NEW METHOD FOR REPAIRING SEVERED NERVES

Says 'Sleeve Graft' Makes Possible Closure Of Irreducible Gaps Using Only Tissue Of The Nerve Which Is Injured

A new method for the closure of irreducible gaps in injured large nerves in a single operation, utilizing only the tissue of the injured nerve, is described in *The Journal of the American Medical Association* for February 27 by David Bodian, Ph.D., M.D., Baltimore.

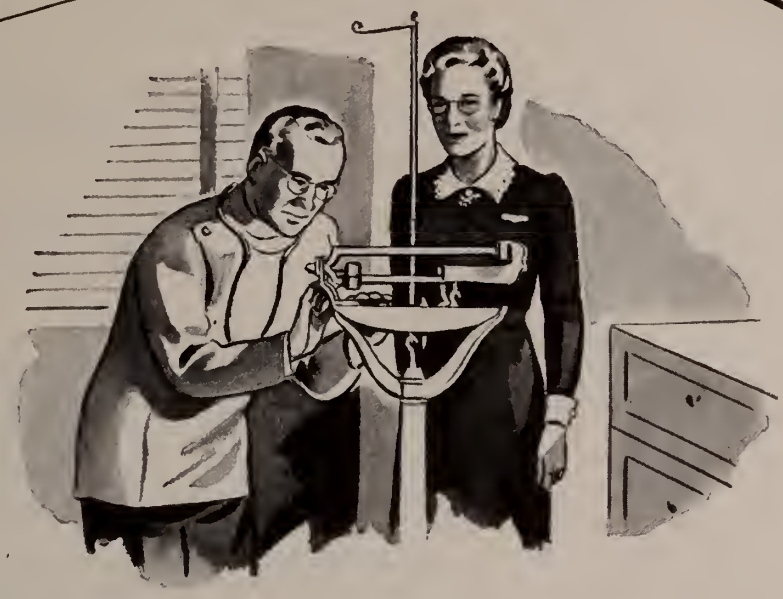
The new procedure, which would have particular value in the handling of the large number of such nerve injuries associated with the war, has not yet been tried on human beings but encouraging results have been obtained on rhesus monkeys and there is every reason to expect the same results on man.

Dr. Bodian explains that "The repair of traumatic gaps [caused by wounds] which cannot be closed is now attempted by means of stretching operations in two or three stages, nerve crossing or nerve transplantation. Without discussing the advantages or disadvantages of these methods, it is proposed to describe a new method designed to make possible a simple primary or secondary repair of large nerves by means of a single stage operation. . . ."

He calls his method a "sleeve graft" and there are two ways in which it can be prepared. The first one, which he calls a "sliding sleeve graft" can be compared somewhat to the method used in making the willow whistle, familiar to every farm boy, or to the manner in which the rubber insulation or sheath on an electrical cord is loosened and slid back to make a splice. A portion of the distal or outer portion of the severed nerve stump, embodying the nerve sheath and the underlying outer bundles of nerve fibers and somewhat longer than the gap to be bridged, is loosened and slipped up to join the end of the other nerve stump where it is sutured into place.

When the inner sheaths of the nerve offer too much resistance to such a "sliding sleeve graft," all but a small portion of a sleevelike extension is cut free from the inner core of nerve bundles and then sutured to the ends of the two stumps.

(Continued on page 44)



IN THE CORRECTION OF

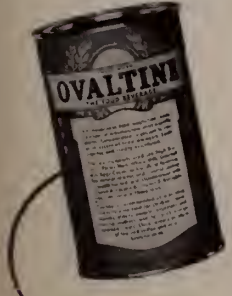
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*Each serving made with 8 oz. milk; based on average reported values for milk.

SEVERED NERVES (Continued)

With this procedure, Dr. Bodian says, it is possible to avoid severing the main blood vessel in the sheath of the lower or peripheral stump, that portion of the sheath of the stump not being cut loose when the sleevelike extension is removed.

"With the sliding sleeve extension," the author continues, "sutures need be placed only at the line of apposition with the central stump, in the manner of end to end suture, the calibers of the sleeve extension and of the central stump being comparable. The absence of a distal suture line, such as occurs with ordinary grafts of nerves, is an advantage of obvious importance. . . .

"The advantages of the sleeve extension methods, which have been used successfully in experiments in rhesus monkeys, are: 1. Uncomfortable postures of limbs, as in nerve stretching operations, are avoided. Also avoided is the risk of overstretching the nerve. . . 2. No other nerve is deprived of function as in the case of nerve crossing or nerve autotransplant operations. 3. The repair procedure is confined to the site of the nerve injury. 4. Except for the junction with the normal central stump, which is soon crossed by regenerating fibers, there is no place where invading fibrous tissue can form a transverse barrier to outgrowing nerve fibers. In the case of transplant operations, for example, the distal union scar may require later resection to permit fibers which have regenerated to this point to pass into the distal stump. . . ."

One of the important other advantages of the method pointed out by Dr. Bodian also explains the functional aspects of the technic. He says that if repair by means of sleeve extension is done without too great delay after injury the proliferative (reproductive) activity of the Schwann cells, which constitute the tissue lining the inside of the sheath, in the distal or outer stump results in their growing up through the sleeve to accomplish union with the central stump. They also create a new and favorable bed or channel for the regenerating nerve fibers growing down through the sleeve from the central stump. These cells also grow around the exposed core of the lower stump, left bare when the sleeve is slid up to join the upper stump.

(Continued on page 46)

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Typical dialysis effected by solution of Sal Hepatica. At end of 4-6 hours the meniscus mounted almost to top of thistle tube from low level (see inset).

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SEVERED NERVES (Continued)

When a delay of several months has occurred preceding operation for repair, a sleeve extension, the author explains, can be prepared in similar fashion from the proximal or upper stump since the lower stump at this time may be of stiffer consistency and its Schwann cells may have reduced proliferative potencies.

As for difficulties in the application of the method, Dr. Bodian says that "the preparation of the sleeve extension may be complicated by branching of the distal stump in the course of the sleeve segment. If the branches are small they may be severed close to the main trunk and sutured to the nearest point of the exposed core of the distal stump after the gap in the parent trunk has been closed. If the branches are large it may be advisable to prepare the sleeve extension from the central stump. It is also possible to close the gap by using sleeve extensions from both the proximal and distal stumps. . . ."

INDIANA ASKS A "PAY AS YOU GO" POLICY

The following is quoted from the December, 1942, issue of *The Journal of the Indiana State Medical Association:*

"The *Ligonier Leader,* under date of October 28, has the following editorial comment to make on a matter of great interest to every member of the medical profession. We are quite in accord with the idea, there being no good reason why medical bills should not receive the same attention as grocery and market accounts, etc.

" 'American doctors are beginning to include with their monthly statements to patients a small printed card asking that medical attention be paid for on a strictly cash basis. 'We ask your cooperation because of increasing difficulty of bookkeeping facilities.'

" 'The wording is dignified and courteous and touches upon only one of many emergencies confronting the medical profession today — that of office help. This is especially true in communities where essential industry is taxing man and woman power to the breaking point.

" 'The doctors' problems are legion; war is taking from civilian life the bulk of the younger medical men, and remaining older doctors are overwhelmed with work. The doctors remaining in home service fully realize their responsibility for maintaining civilian health during this critical period.

" 'Let us not forget that our family doctor is an integral part of an American tradition, and that this tradition has been built, through the years, upon his personal gifts as an individual; upon his integrity, and his character.

" 'Let's pay as we go — and stand by.' "

"The first and greatest need is education; education of the people and through them education of the state."—Trudeau

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In a first-aid class the instructor explained that the cause of fainting was primarily a fault of circulation and that it could be prevented by getting the head lower than the heart.

"For instance," he said, "if you feel faint, and don't want to call attention to it, just lean over and tie your shoe lace over again."

A woman in the front raised her hand.

"What sort of knot should be used?" she asked.

The doctor had just run the length of the station platform in an effort to catch the fast departing train. A porter came along and asked: "Did yo' just miss dat train?"

"No," was the disgusted reply, "I didn't like its looks so I chased it out of town."

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REPORT ON A 15 YEAR STUDY OF RHEUMATIC HEART DISEASE

Observations By Two New Yorkers Show That When Condition Begins In Childhood 69 Per Cent Survive That Age Period

When rheumatic heart disease begins in childhood, 69 per cent survive childhood, 35 per cent survive adolescence, 18 per cent reach the age of 30 and 5 per cent live beyond the age of 45, Alfred E. Cohn, M.D., and Claire Lingg, New York, report in *The Journal of the American Medical Association* for January 2. "When the disease begins in adolescence," they say, "85 per cent survive this age period, 55 per cent reach the age of 30 and 21 per cent the age of 46 or more. When the onset is in the twenties 23 per cent and when it is after 30, 44 per cent survive the age of 45."

These findings are based on a study which occupied the authors continuously for fifteen years during which 3,129 patients with rheumatic heart disease were observed until death.

"The supposition is general that girls are more often afflicted than boys," the authors say, "but when so large an experience as this is available it appears that this is not the case — the two sexes are afflicted in equal numbers. There were 1,566 males and 1,563 females."

Among other important facts about the disease revealed by this study is that there is no important difference between the sexes in the age at onset. The mean age for males is about 14 years and for females about 15 years.

"Rheumatic fever," the authors say, "may begin at any age, but it usually begins in childhood, especially between the ages of 5 and 10 years. At 15, 70 per cent of persons afflicted have already acquired the disease.

"In youth, the onset of the disease is characterized by polyarthritis [inflammation of several joints at the same time] in about half and by carditis [inflammation of the heart] or chorea [Saint Vitus's dance] in about one third. In adult life, the onset is characterized chiefly by polyarthritis and, with advancing age, by the



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appearance of valvular lesions [injuries to valves of the heart] alone.

"The mean duration of the disease is about 13 years; 50 per cent of patients die within nine years after onset but 25 per cent live more than seventeen years and 10 per cent for thirty or more years. . . .

"Of all cases of rheumatic cardiac disease, 65 per cent are to be found in childhood. In the remaining 35 per cent the disease is acquired at later age periods. In adolescence are to be found 56 per cent, the survivors from childhood plus those who have acquired the disease in this age period. In the age group past 45 are to be found only 16 per cent, of whom 13 per cent were first afflicted before and 3 per cent after age 45."

There are one and one-half as many deaths from tuberculosis among men as among women. The preponderance of deaths among men is in the older age groups, the reverse is true among women. Mary Dempsey, Nat'l Tuber. Assn.

SYPHILIS RATE OF U. S. MALES BETWEEN 21 AND 35 IS 4.77%

Estimate Is Based On Blood Test Reports Of 1,895,778 White And Negro Men In This Age Group Examined In Draft

The rate of prevalence of syphilis for the entire male population of the United States between the ages of 21 and 35 is estimated to be 47.7 per thousand, based on serologic blood test reports of 1,805,778 white and Negro men between those ages who were tested under the provisions of the Selective Training and Service Act of 1940, R. A. Vonderlehr, M.D., and Lida J. Usilton, M.A., Washington, D. C. report in *The Journal of the American Medical Association* for December 26. The rate of prevalence of the disease based on positive and doubtful blood tests among the selectees examined is 45.3 per thousand. The rate of prevalence among Negro selectees is 252.3 per thousand, among white selectees 17.4 per thousand. The estimated rate

(Continued on page 50)

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SYPHILIS RATE (Continued)

of prevalence for the entire male Negro population aged 21 to 35 is 272 per thousand, for the entire male white population 23.5 per thousand.

The rate of prevalence among selectees from rural areas is 43.8 per thousand, from urban areas 46.1 per thousand. The estimated rate of prevalence among the entire male population aged 21-35 in rural areas is 49.4 per thousand, while in urban areas it is 46.5 per thousand.

The highest prevalence rates for whites and Negroes are found in the Southeastern states, the lowest in the New England. West North Central and Middle Atlantic states.

The authors explain that the study does not include data from Idaho, Kentucky, Oregon and Vermont, as these states did not use the standard report forms and the data they supplied were incomplete. All rates represent the proportion of men between the ages of 21 and 35 with suggestive early lesions of syphilis or with positive or doubtful serologic test results.

It was found that among white men and Negroes the rates rise sharply with increasing age. Among white urban dwellers the rate of prevalence is almost four times as high in the age group 31-35 as in the age group 21-25. Among Negro urban dwellers the rate among the oldest men is about twice the rate among the youngest men.

The two authors say that "This, of course, does not mean that the older men are exposed to syphilis twice or four times as fast as the younger men but rather that there is a constantly accumulating backlog of uncured syphilis. This is due in part to the fact that too much syphilis never is brought to treatment and in part to the fact that too many syphilitic patients are not held through an adequate treatment course."

After a period of regression between the two wars, the number of tuberculosis cases in Sweden is once more increasing, and the health authorities have launched a nationwide anti-tuberculosis campaign. Mass radiography and vaccination with BCG are the foremost measures suggested. At first everyone who has anything to do with children, passenger traffic and foodstuffs would be subject to these precautions which would later be extended to women and adolescents in industry. News item from The Lancet, Oct. 3, 1942.

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ABSTRACT OF MEDICAL ARTICLES BEING SENT DOCTORS IN SERVICE

Journal Of A.M.A. Announces Two Projects Which Are Aimed At Keeping Physicians In Armed Forces Abreast Of Advances

Two projects that are aiding physicians in the armed forces not only to maintain professional competence in matters pertaining to military medicine but also to return to civilian practice at the end of the war armed with the latest knowledge in all fields of medicine, are announced in *The Journal of the American Medical Association* for January 23.

The Journal says that: "By cooperation of the editorial staff of *The Journal of the American Medical Association* with the Committee on Information of the Division of Medical Sciences of the National Research Council and the Divisions of Publications of the United States Army and Navy Medical Departments and the United States Public Health Service, a letter is being prepared every two weeks, which is distributed to every officer in these services. Such letters are sent by air mail or by V-letter to various camps and hospitals and are there mimeographed for distribution to the individual officers. In some instances, copy is sent directly to an individual officer. The letters consist of from four to six pages of brief abstracts of articles of significance appearing in the current medical literature.

"By special arrangement also E. R. Squibb and Sons has planned to distribute to officers in the armed forces a publication called *Medical Journal Abstracts,* prepared by the library staff of this company. Copies of this periodical are sent to each station, camp, hospital or post in care of the chief medical officer or the chief surgical officer and then distributed by him to the medical officers in his group. The company offers to send *Medical Journal Abstracts* on receipt of a correct APO address also to medical officers overseas, subject, of course, to decisions of governmental authorities in charge of postal regulations.

"Certainly these attempts to aid physicians in the armed forces to keep abreast of advances in medical science can result only in improvement in medical service to the men for whose health and medical care they are responsible."

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PRESENTS SEVEN DIETARY SUGGESTIONS FOR THE AGED

Seven dietary suggestions for the aged are presented in *The Journal of the American Medical Association* for January 2 by Edward L. Tuohy, M.D., Duluth, Minn., in summarization of a special article on the subject, prepared under the auspices of the Association's Council on Foods and Nutrition. Dr. Tuohy says:

"1. Elderly people should start the day with a good breakfast. It should include some substantial protein, and whatever else depends on body weight and activity. Protein adequacy must be maintained at all ages.

"2. As effort lessens and sedentary life supervenes, weight rise or fall should dictate the proportion of carbohydrate taken, and as much of this as possible should be from whole grain. While bran is objectionable cracked wheat products are not. Enriching flour may be a good expedient but the objection to dark breads should be lived down. Potato is the next best starch.

"3. For the obese, vegetables and fruits should act as the 'fillers' and provide appetite and zest for eating by meticulous preparation and serving.

"4. The elderly should eat fat sparingly, even as the middle aged should use it cautiously. The high cholesterol sources (egg yolk, cream and animal fats) should probably be curtailed wherever body build, family history and other indications portend atherosclerosis [a form of hardening of the arteries]. It is the one decisive indication for dietary restriction after full stature has been attained. The danger of high blood cholesterol is not universal.

"5. Tea, coffee and alcohol are useful stimulants. The abuse of alcohol places it for some people in the category of both refined carbohydrate and animal source fat. As a vasodilator [dilator of blood vessels] it inspires as well as flushes the aged. One cannot say as much for tobacco. It soothes and cuts off circulation. The quiet postprandial [after a meal] puff is rapidly becoming a continuous process. Tobacco is safer after 60 than before, because age has by that

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time made the blood vessels less elastic and labile.

"6. Food and water (hot drink) taken at regular intervals revive the old. Food becomes the best sleep producer even though early wakefulness follows. Fruit juices add the needed vitamin content.

"7. Hunger lessens as age advances. Foods useless calorically (condiments, broths, relishes) have a place. The teeth, gastric acidity, probably absorptive powers, vitamin storage — all begin to fail with age. We are able to compensate for these losses with vitamins, iron, calcium, hydrochloric acid and a balanced diet. The mouth becomes the nutritional barometer of health."

Marry and Live Longer. Among industrial policy holders of an insurance company, tuberculosis accounted for 19.1% of all deaths among single males between the ages of 20 to 44, but only for 11.4% of the deaths among the married. The proportion of deaths from tuberculosis is even higher among the widowed, namely, 23.1%. The rates for alcoholism, accidents and syphilis are also higher among the single and widowed than among the married. Editorial, Med. Record, March, 1942.

48 AMERICAN PHYSICIANS DIED IN MILITARY SERVICE IN 1942

A. M. A. Journal Publishes Annual Summary Of Data On Mortalities; Net Increase To Profession Last Year Was 1,952

During 1942, 48 physicians of the United States died in military service, 11 of them in action, *The Journal of the American Medical Association* for January 16 reveals in its annual compilation of data on deaths among physicians. Among the other highlights in the summary are that the average age at death was 65, as compared with 65.9 in 1941 and also that there was a net increase of 1,952 physicians to the profession in the United States last year. *The Journal* report says:

"During 1942 a total of 3,328 obituaries of physicians were published in *The Journal*. Of these, 3,211 were classified as of the United States and 117 as of Canada; 85 were of women. The American Medical Directory Report Service, including the United States, possessions and Canada, recorded 3,580 deaths, including 3,353 for the United States alone, or 142 more than the 3,211 published in *The Journal*.

"A net increase to the profession of 1,952 resulted from the 5,163 graduates of medical schools in the United States for 1942. The increase does not include

(Continued on page 55)

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MORTALITIES (Continued)

graduates of foreign schools who were first licensed in this country in 1942. These statistics are not yet available, but 626 were recorded during the calendar year 1941.

"*Age.* — The average age at death was 65, as compared with 65.9 in 1941 for 3,354 deaths published in *The Journal.* Twenty-two physicians died between the ages of 25 and 29, 66 between 30 and 34, 63 between 35 and 39, 83 between 40 and 44, 104 between 45 and 49, 175 between 50 and 54, 278 between 55 and 59, 415 between 60 and 64, 551 between 65 and 69, 548 between 70 and 74, 369 between 75 and 79, 312 between 80 and 84, 178 between 85 and 89, 36 between 90 and 94 and 9 between 95 and 100. The age could not be ascertained on 2 deaths.

"*Causes.* — Heart disease again accounted for the greatest number of deaths among physicians. Coronary thrombosis and occlusion caused 627 deaths, and other coronary diseases and angina pectoris 143. Other diseases of the heart and myocardium were responsible for 838 deaths. In this group cerebral hemorrhage also appears with 393 deaths, arteriosclerosis 250, and cardiovascular renal disease and chronic nephritis 217. Cancer and tumors in various forms accounted for 181 deaths, those of the gastrointestinal tract totaling the largest group of 141. In the general classification, 239 deaths were grouped under diseases of the respiratory system, except tuberculosis. Of these lobar pneumonia was recorded for 23 deaths. There were 139 deaths classified under diseases of the gastrointestinal tract, 40 under diseases of the genitourinary tract, 46 under diseases of the nervous system and 29 under diseases of the blood, including pernicious anemia, leukemia and Hodgkin's disease. Diabetes accounted for 72 deaths, tuberculosis, all forms, for 36. . . . Senility and ill defined causes were responsible for 40 deaths, and 38 physicians died following an operation. Rheumatism and arthritis caused 8 deaths, influenza and other infectious diseases 5. . . . One death each was recorded from alcoholism . . . beriberi, virus pneumonia, tetanus, typhus fever . . . psychosis with drug addiction, pellagra, carcinoma following x-ray burns, the result of exposure to x-rays for a number of years, and malaria.

"*Accidental Deaths.* — One hunded and twenty-three accidental deaths were recorded. Automobile accidents accounted for 50 deaths. Falls were responsible for 25 and then airplane accidents 10, trains 7, burns 6, drowning 4, bullet wounds 3, and overdose of medicine, poison and asphyxiation 2 each. A street car accident caused 1 death and illuminating gas 1. The type of accident was not specified for 2 deaths. Fractures, which have been classified under falls, were of the skull, hip and femur. There were 6 unexplained fractures. One death occured when the physician slipped down an icy mountain slope, and 1 was caused by a ruptured intestine when the physician was squeezed between two operating tables.

"*Suicides and Homicides.* — Forty-seven suicides were recorded, 18 being attributed to bullet wounds. Next in order of classification of method were poison 8, hanging or strangulation 5, cut artery 3, overdose of drugs 2, falls (jumping) 3 and gas 2. One death occurred from injuries received when the physician threw himself under a train. The method was not reported in 5 suicides. Only 1 homicide was reported, a bullet causing death.

"*Miscellaneous Positions.* — Among the decedents were 253 who had been teachers in medical schools, 149 of whom had reached the professorial rank. There were 13 deans. One hundred and twenty had been members of boards of education, 128 health officers, 105 members of boards of health, 59 mayors, 55 coroners, 42 authors, 29 bank presidents, 25 legislators, 18 missionaries, 17 editors, 15 members of city councils, 15 pharmacists, 7 police physicians or surgeons, 6 clergymen, 5 fire surgeons, and 3 each had been judges, lawyers, postmasters and sheriffs. Two were justices of the peace. Three were interns. One was chairman of the revision committee of the Homeopathic Pharmacopeia, 1 was a member of the U. S. Pharmacopeia and 1 had been Secretary of the Interior, Postmaster General of the United States and chairman of the Republican National Committee.

"Of the total of 3,211 physicians, 533 had served in World War I, 58 in the Spanish American War and 3 in the Civil War. Thirty-five were members of the U. S. Public Health Service, 20 of the U. S. Army, 15 of the Veterans Administration, 14 of the U. S. Navy and 9 of the Indian Service. One served in the Philippines during the insurrection. Three were members of the National Guard. Six had been members of the medical reserve corps of the U. S. Army and 1 of the reserve of the U. S. Public Health Service; 33 had been medical examiners of draft boards for World War I and 22 for World War II. The classifi-

(Continued on page 56)

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MORTALITIES (Continued)

cation 'Selective Service System' was reported in 17 deaths.

"Association Officers. — Among those who died, 2 had been President of the American Medical Association, 3 Vice President, 1 Trustee, 1 member of a Council, 1 secretary of a Council, 1 Vice Speaker, 2 members of the Committee on Medical Preparedness, 17 section officers and 32 members of the House of Delegates. There were 39 presidents of state medical societies, including 1 president of the Alaska Territorial Medical Association. One was president of the Medical Association of the Isthmian Canal Zone. There were 6 secretaries of state societies and 213 presidents of county medical societies.

"Military Service. — Eleven physicians died in action during World War II and 37 while in military service. Of those killed in action, 4 died in the Philippine Islands, 1 at Corregidor, 1 when a ship in the Carribean was torpedoed, 1 somewhere in the Pacific, 1 at Java, 1 at sea (unknown) and 2 at Guadalcanal. Of those who died while in military service, 9 were killed in airplane accidents and 3 were reported suicides. Coronary disease were responsible for 7 deaths, acute epidemic hepatitis 1, septicemia 1, carcinoma of the sigmoid 1 and uremia 1. Two died when the barracks were destroyed by fire and 1 was killed by the accidental discharge of a sentry's gun, 1 in a shipwreck off the coast of Newfoundland, 2 in automobile accidents and 1 in a train accident. The rest were classified under various physical conditions.

"The general total of 3,211 includes deaths that occurred in Turkey, Iran, Scotland, Ecuador, China, Mexico, France, Sweden, Spain, Alaska, Hawaii and Puerto Rico."

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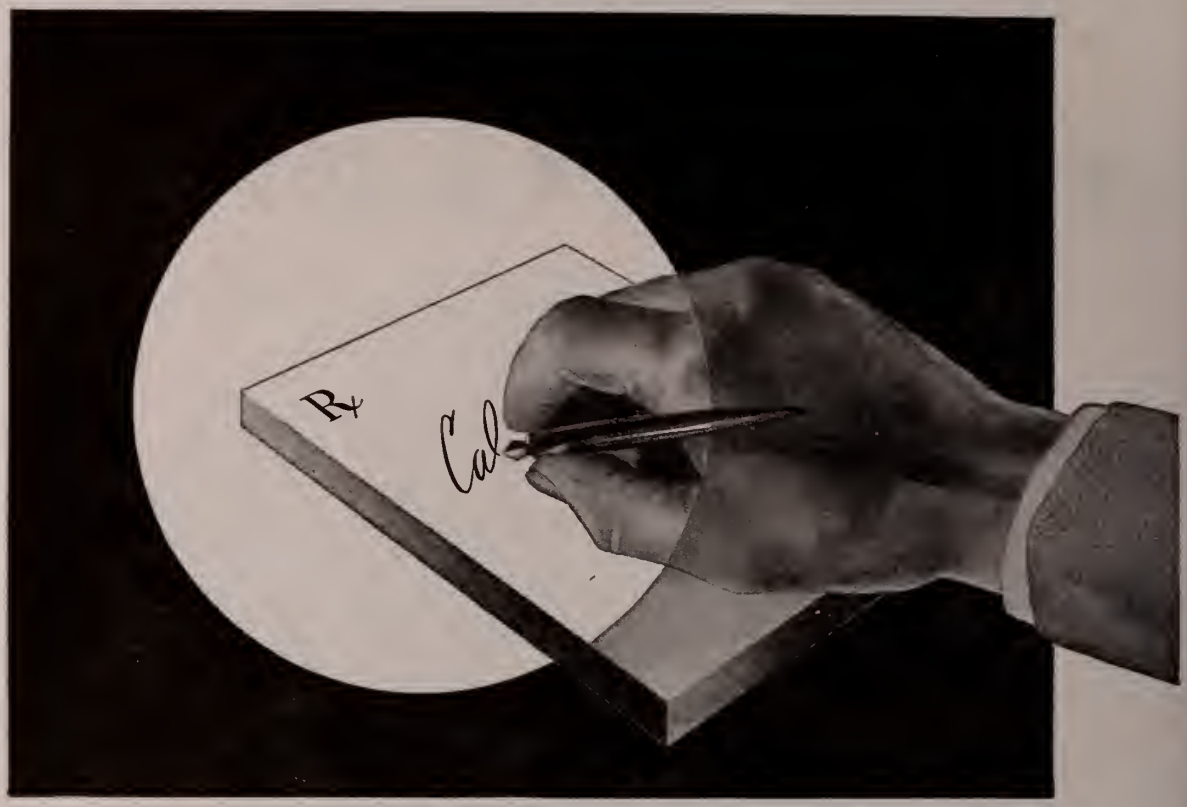
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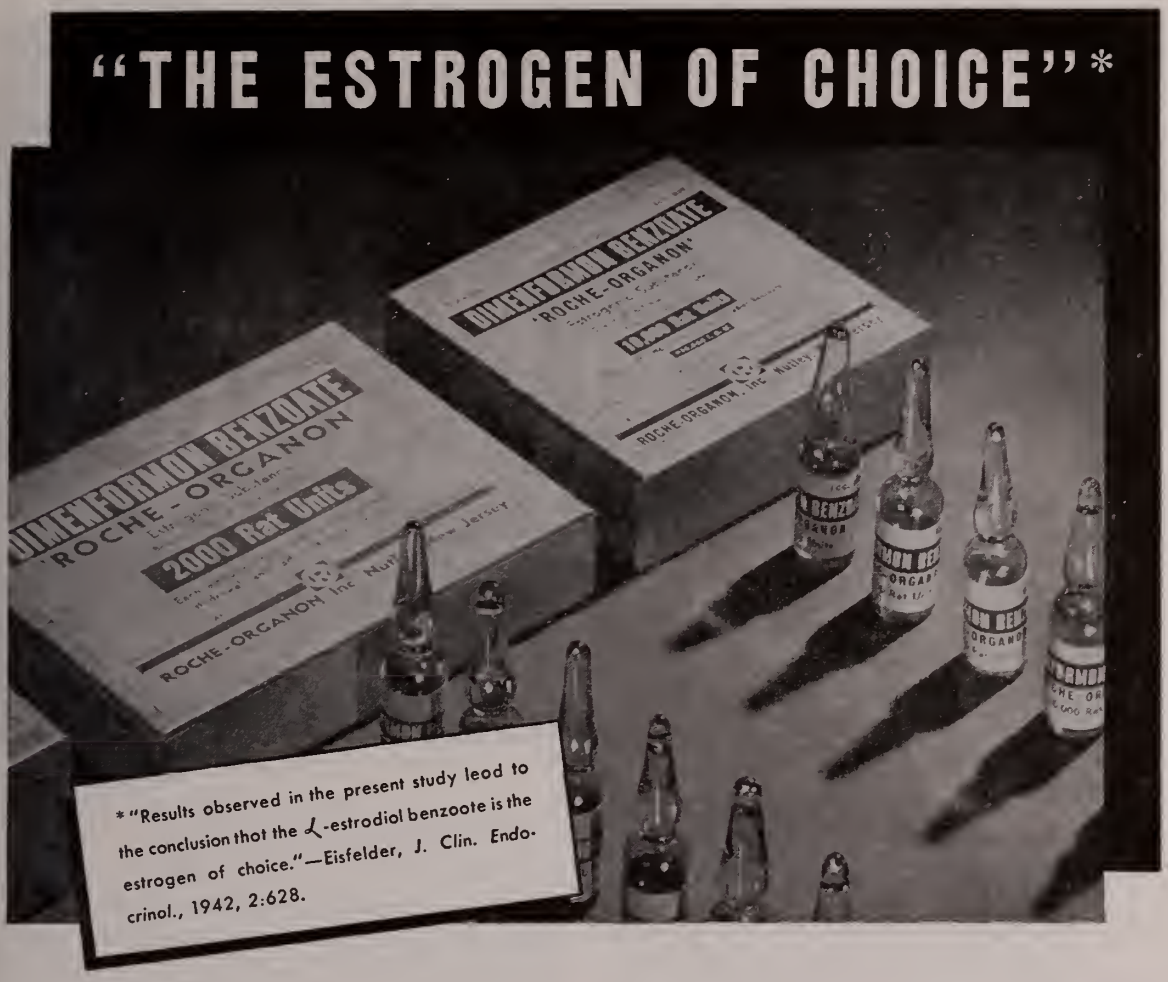
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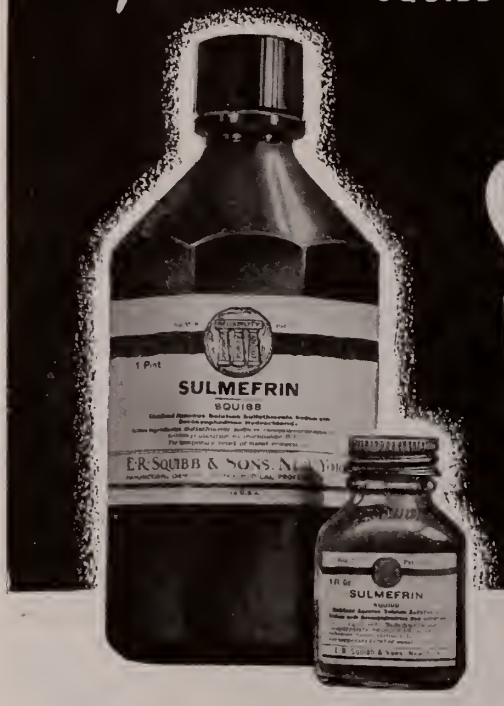
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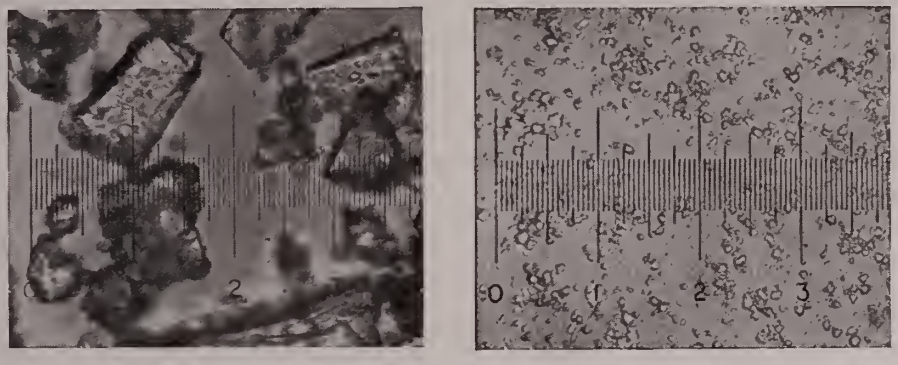
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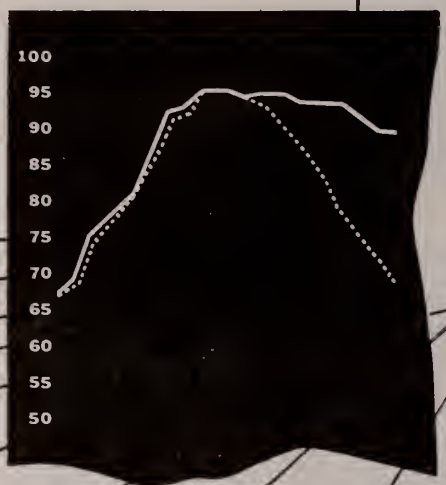
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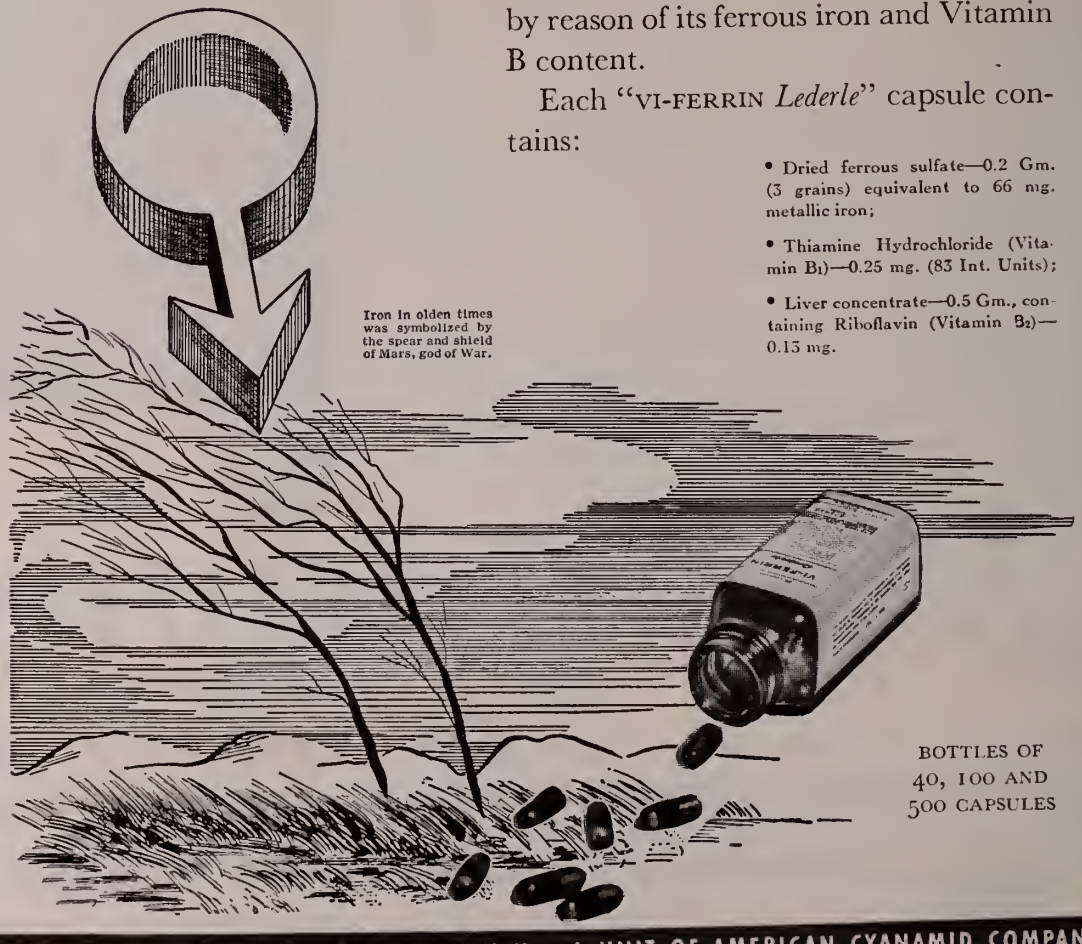
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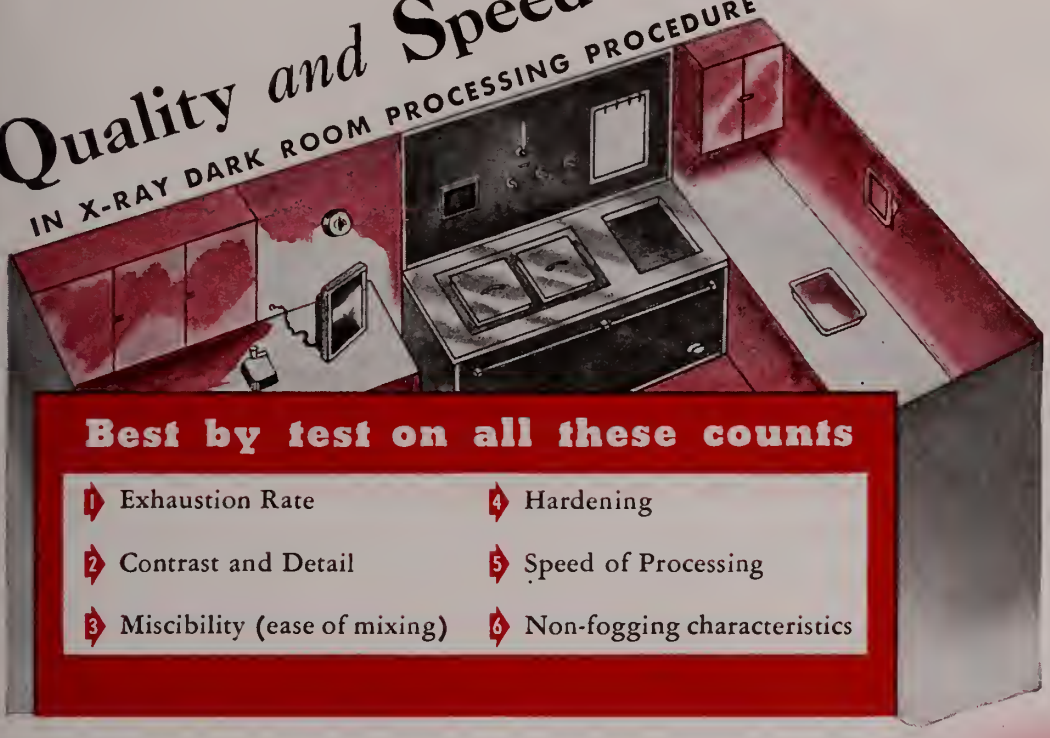
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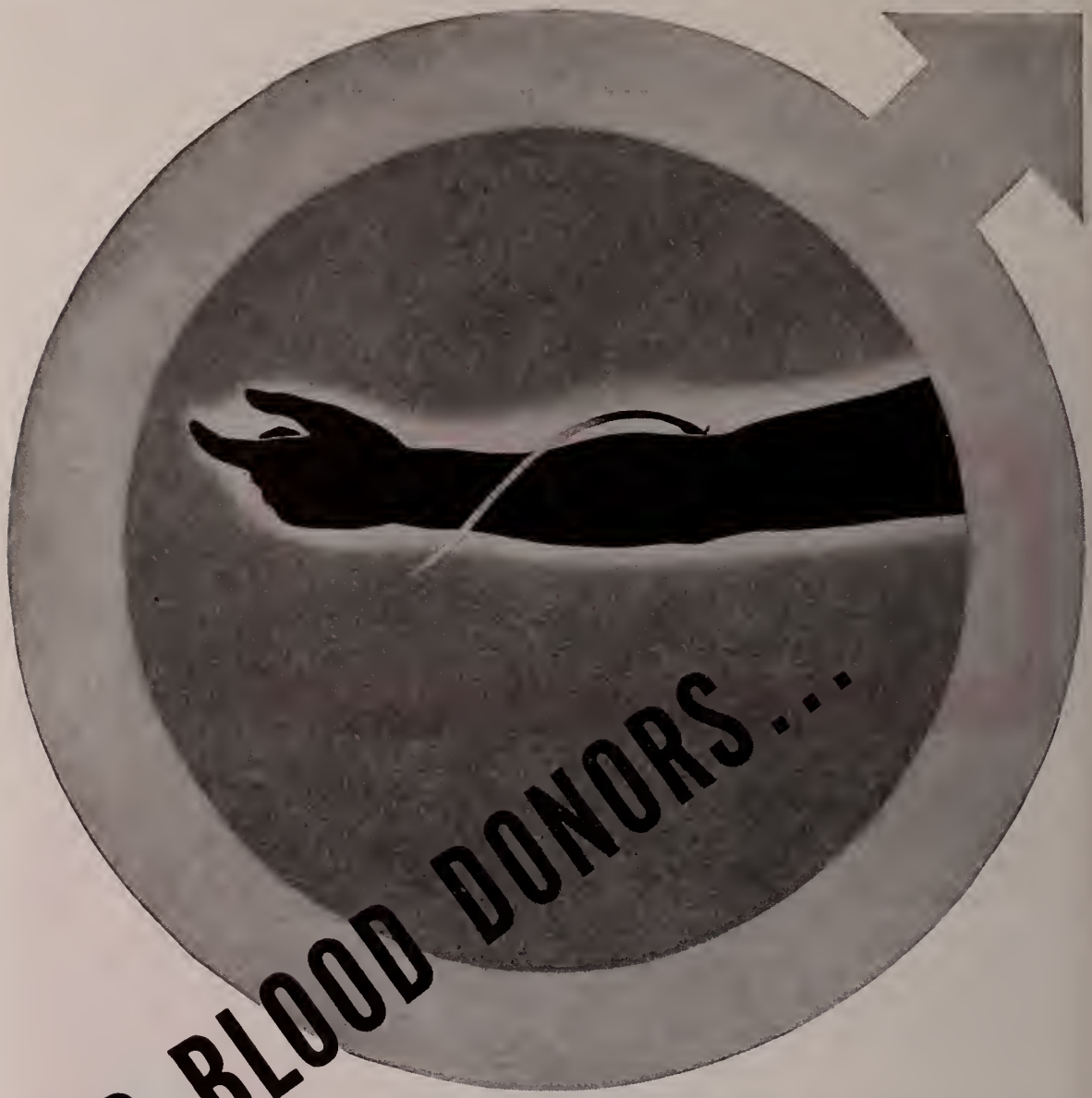
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† Fowler and Barer: "Rate of Hemoglobin Regeneration in Blood Donors." J.A.M.A., 118:421:1942.
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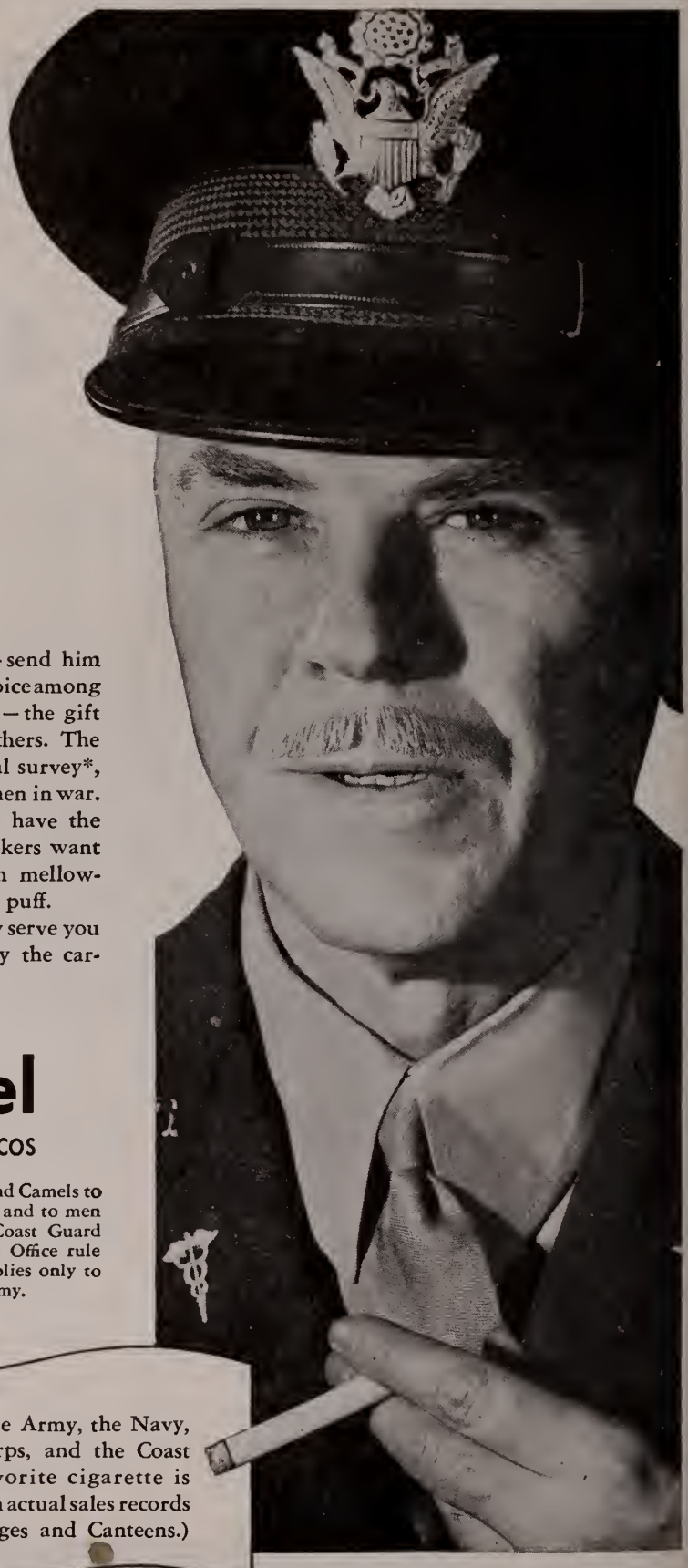
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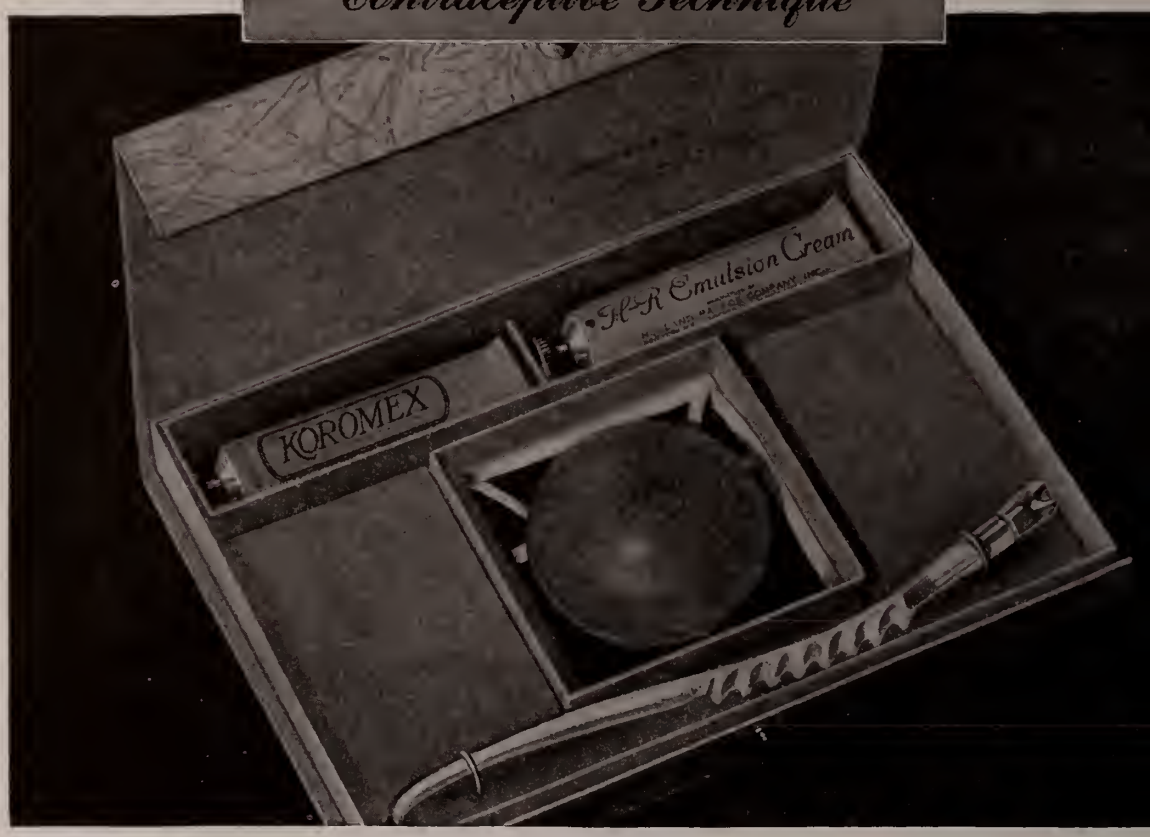
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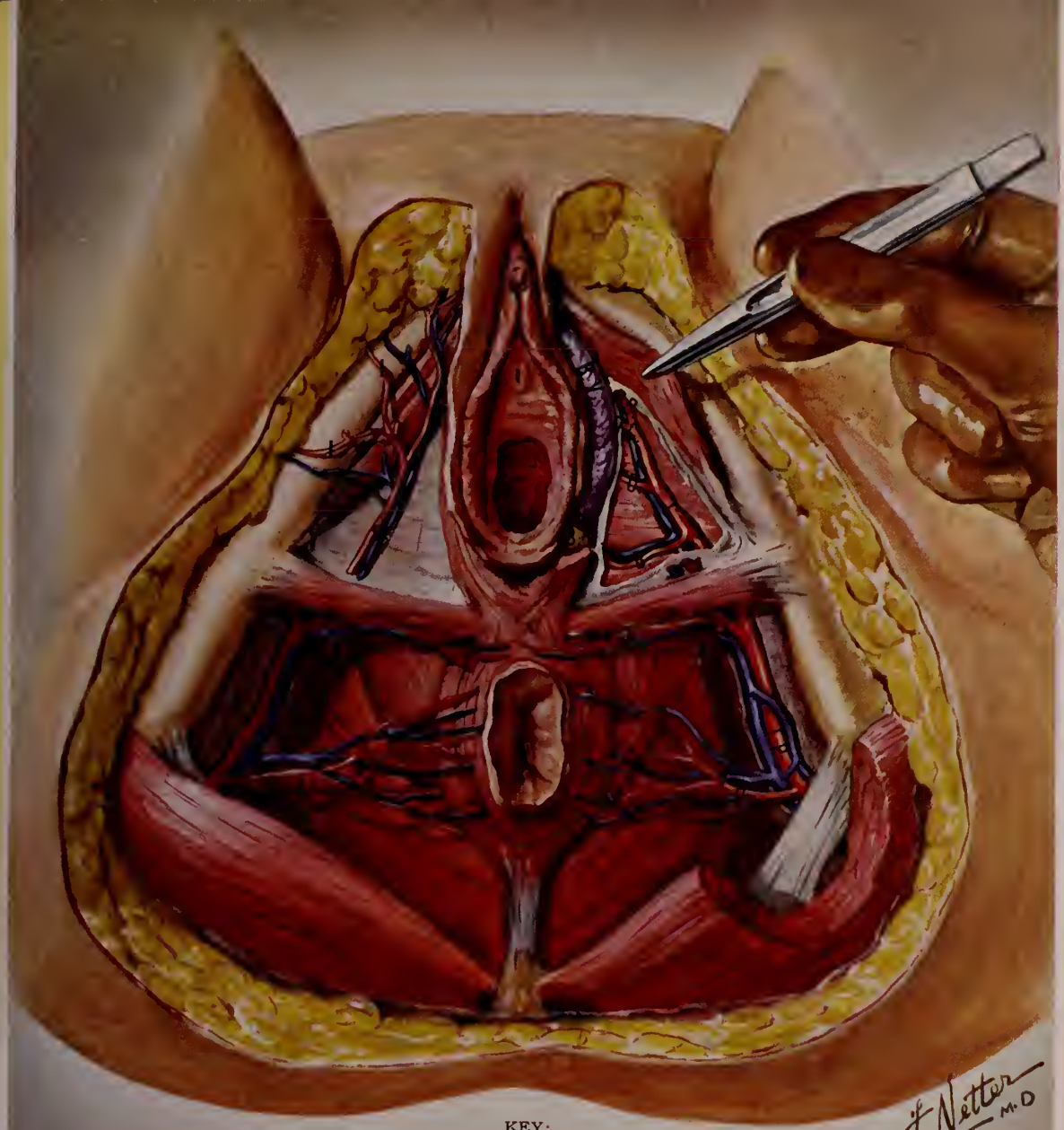
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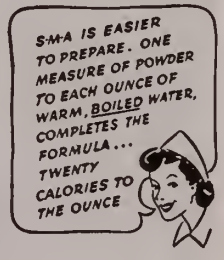
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The Illinois Medical Journal

April, 1943

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Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Philip H. Kreuscher, Harry Culver.

Editorials

THE 1943 ANNUAL MEETING

The 1943 annual meeting of the Illinois State Medical Society will be held at the Palmer House, Chicago, on May 18, 19, and 20, 1943. The meeting is designated as a war meeting, and invitations have been extended to the medical personnel of the various Army and Navy headquarters in the Chicago area. Medical men in uniform will be registered as guests, and will be permitted to participate in the deliberations. Many subjects to be discussed at the meeting will pertain to war medicine.

The meeting will begin Tuesday morning with special meetings scheduled representing several branches of medicine. The opening meeting will begin at 1:00 P. M., Tuesday, May 18, and will be followed by meetings of the individual sections. Tuesday evening will be given over to dinner meetings, such as the annual Secretaries' Conference, Veterans Dinner, and dinner meetings of some of the sections. At 9:00 P. M., the Oration in Medicine will be delivered by an outstanding speaker, to be announced in the May Illinois Medical Journal.

On Wednesday morning there will be a joint meeting of all sections with a program of general interest. At 11:00 A. M. the Oration in Surgery will be given before this group.

Wednesday afternoon will be devoted to the presentation of meetings of each of the scientific sections, and on Wednesday evening the annual President's Dinner will be held, at which time a prominent speaker will give a non-medical talk, which will be of interest to all present. Suitable entertainment for the group will also be presented, following the dinner.

On Thursday morning there will be another joint session, with all sections participating, and subjects dealing principally with the war effort will be discussed.

The meetings of the House of Delegates will be held on Tuesday afternoon, and on Thursday morning. Complete information concerning these meetings will be sent to all delegates well in advance of the opening session.

There will be the usual fine technical exhibit in the large Palmer House exhibit hall. Scientific exhibits will likewise be an important feature of the annual meeting, and they will be displayed on the fourth floor of the Palmer House.

Owing to the fact that there will be some difficulty in reserving rooms in the Palmer House and other loop hotels, all members and guests intending to be present at this annual meeting should make hotel reservations as early as possible. Room reservations should be made be writing the hotels, rather than to members of the committee on arrangements.

The official program with complete information relative to the programs and other essential information will be published in the May Illinois Medical Journal.

MAKE YOUR HOTEL RESERVATIONS

NOW AND PLAN TO ATTEND THE 1943 ANNUAL MEETING.

THE CONSERVATION OF MANPOWER

The subject of manpower is one of the many receiving more consideration at this time than ever before in the history of this country. It is necessary for the best results in time of war that everyone able to do so should endeavor in every way possible to make his contribution to the war effort. With so many physicians being called into the armed forces to care for the men in service, it has been necessary that warnings be issued whenever possible, for the conservation of medical manpower, and the limiting of the abuse on the part of many, in calling the physician unnecessarily.

In many communities notices have been published in papers telling the public to use more caution than ever before in demanding the time and attention of their physician when not actually necessary. It has frequenty been stated that perhaps the majority of night calls could have been made in the daytime, but the family has neglected the placing of the call to the physician until night time. In some communities one or more physicians have been willing to spend the night in the hospital, to be subject to calls within the institution and also be ready to make essential night visits in the home, to give the other physicians an opportunity to get the desired rest.

It has been generally decided that for the duration of the war, the number of residents in hospitals should be reduced at least 50% from the number previously used, and that 25% of these should be women physicians, and 25% should be selected from the list of younger physicians who have been found physically disqualified for military service. It has been recommended that hospitals can frequently combine two or more services, and thus reduce the normal number of residencies within the institution.

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

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With the reduction of speed on the highways and the rationing of gasoline, there has been a noticeable reduction in the former high number of highway accidents. These accidents in recent years have materially reduced the number of men capable of carrying on their daily duties on the farm, in the office, industries, and mercantile establishments. It has been known for a long time that an unusually high percentage of accidents occur in the home, and even the highly essential bath tub has added materially to the many casualities.

Recent releases have called attention to the large number of accidents which have occurred on the farm, these having increased substantially in recent years, with the increase in the power machines which have been added to the farmer's armamentarium. Each year in the corn belt, physicians have seen many accidents result from the use of the corn picker, and thousands of arms and legs have been sacrificed as a result of the use of this modern appliance, in addition to the loss of many lives from this source.

Many accidents have been caused by the combine, mower, tractors, and many other similar farming accessories. Futhermore, the injuries received from the handling of live-stock have added materially to the large number of farm accidents reported in recent years.

During the hunting season each year, many have been crippled or killed from gunshot injuries. Also a considerable number of lives have been lost from duck hunting expeditions, drowning taking a considerable toll of lives in addition to that from guns.

The medical profession today has assumed more responsibilities than ever before in the effort to increase the manpower through the rehabilitation process following serious injury. With the use of blood and blood substitutes, the sulfonamides, the newer treatment of fractures, soft tissue injuries, and improved hospitalization facilities available in nearly every community, many people have been restored to good health and are permitted to again participate in the war effort.

Women in industry are a vital factor, and modern industrial medicine must necessarily give consideration to the many troubles which are peculiar to women. In nearly every state today, there is a well organized group of industrial physicians which endeavors in every way possible to aid in the procuring of adequate medical and surgical services to the industrial workers.

The Illinois State Medical Society has an official committee on industrial health, and each county medical society, especially in those counties which have industries with many workers, has named a similar committee to confer with the state committee, and receive the releases which are going out regularly for their information. Medical Societies are scheduling programs along industrial lines, at which time physicians are appearing to discuss many of the modern problems relating to industrial health and care of workers.

Special teams have been arranged to go out to various communities requesting this type of meeting to discuss many of these problems. Among the most popular of these subjects are the use of blood and blood substitutes (especially plasma), the recognition and treatment of shock, the minimum requirements in care of fractures, treatment of soft tissue injuries, resuscitation, and many other similar subjects which are of interest to all medical men especially at this time.

With the many advances made in medicine in recent years, the medical care of workers in industry, on the farm, and elsewhere, is better than that which was available during the last war, and with the rehabilitation programs now under way, there is an organized effort to aid in every way possible in the conservation of man-power.

INVALID DIETS AND FOOD RATIONING

Of interest to all who are concerned with diets for invalids is Ration Order 13, issued by the Office of Price Administration under date of February 9, 1943. This order covers all canned, dried, and frozen fruits and vegetables. Article II, Section 2.5 of the order reads as follows:

"Consumers who need more processed foods because of illness may apply for more points. (a) Any consumer whose health requires that he have more processed foods than he can get with War Ration Book Two, may apply for additional points. The application must be

made, on OPA Form R-315, by the consumer himself or by someone acting for him, and may be made in person or by mail. The application can be made only to the board for the place where the consumer lives. He must submit with his application a written statement of a licensed or registered physician or surgeon, showing why he must have more processed foods, the amounts and types he needs during the next two months, and why he cannot use unrationed foods instead.

(b) If the board finds that his health depends upon his getting more processed foods, and that he cannot use or cannot get unrationed foods, it shall issue to him one or more certificates for the number of points necessary to get the additional processed foods he needs during the next two months."

The application form referred to above, OPA Form R-315, is apt to be somewhat confusing to patients. It is titled "Sugar Special Purpose Application" and was developed primarily to meet the need for home canning. It is being used temporarily, until a more adequate form can be gotten out.

It is anticipated that the procedure indicated in Section 2.5 above may be changed somewhat in the future, in which case due notice will be provided.

Information Please

PEOPLE THINK the government knows everything and each year they write thousands of inquiries. Here are some of the more interesting ones.

From Long Island: "Please send me information what you intend to do with the dust bowl area. Are you going to try to fix it up or sell it. I will be glad to get all the information you can give me."

From Massachusetts: "Could you give me the address of some turkey farm? I need some nice long feathers from the turkey's tail. They should be long and fairly straight. I use them to clean my oboe."

From Ohio: "Please send me your bulletin on bedbugs. Hope you send it in an envelope, but send it anyway."

From Texas: "I shall appreciate any literature on the care and rearing of babies and how to receive the same in large quantities."

—*Washington is Like That* by W. M. KIPLINGER. Harper & Brothers, New York.

POINTS OUT THERE IS NO KNOWN METHOD OF CORRECTING COLOR BLINDNESS

Despite unsubstantiated claims to the contrary, methods of correcting color blindness are unknown, *The Journal of the American Medical Association* for March 20 warns. *The Journal* says:

"Newspaper publicity given recently to an alleged cure for color blindness seems to emanate from one J. H. Lepper, optometrist, of Mason City, Iowa. In reply to inquiries concerning his procedure for correcting color blindness, a form letter is sent in which it is stated 'YES, YOUR CASE OF COLOR BLINDNESS CAN BE CORRECTED, IF WE DO NOT, IT WILL BE THE FIRST CASE.' The statement also suggests that cases take from two to three weeks for correction. If the patient comes to Mason City, $5 a day is charged. If the prospect finds it impossible to come to Mason City, Lepper says he can send the same equipment, involving two pairs of special colored glasses and one color vision test book, for a total of $25. A lamp with a reflector and a 69 watt bulb and a flasher if obtainable are also required for home treatment. The form letter is accompanied by a list of testimonials, none of them signed by the writer's full name. Color blindness is a congenital defect. Despite unsubstantiated claims to the contrary, methods of correcting this condition are unknown. Many letters sent to the headquarters of the American Medical Association indicate that men who have had difficulty in gaining entrance to the navy or the air force have been given false hopes by his wholly unwarranted publicity for an unestablished procedure."

TAKE A SLOGAN

To "get there fustest with the mostest men" has had a great revival in the news of the present world melee. "Too little — too late" probably inspired the Greater Boston United War Fund's "Give enough — soon enough!"

Not a bad phrase for a medical practice, for given enough attention — soon enough, almost any case of illness is easily remedied.

"Give until it hurts" might do for a fund raising job, but never in this world for a doctor. Imagine a physician (or a dentist) using this phrase as a driving force!

— *N. Y. S. J. of M.*

Correspondence

MAY 18, 19, 20
THREE RED LETTER DAYS

May 18th, 19th and 20th bring to Chicago the 103rd Annual Meeting of the Illinois State Medical Society at the Palmer House. *"Red Letter Days"* because this is a War Meeting — a War Program — dedicated to the Army and the Navy and to our Buddies, who want very much to be here with us. Since many of them in the service cannot, we at home WILL!

In spite of many handicaps and hardships, our Government authorized this Meeting, and expects us to attend. It should, therefore, be not only highly instructive, and a real relaxation, but a patriotic duty. Remember when you register, you are registering not only for yourself, but for your Buddy who would give a lot to be along side of you! For many of us outside of Chicago — downstate — it will call for sacrifices, but we will feel fully repaid. We will have profited by the trip and through our experience and we will have the satisfaction of having done our duty. As for the doctors in Chicago, every one will register and attend at least two days — again one for himself and one for his neighbor who wants to but cannot!

Consult your program in the State Journal and select the speakers you want to hear. But come prepared to spend a few hours leisurely inspecting the interesting exhibits and meeting your friends.

Yours for the biggest, most interesting, most instructive, most patriotic Annual Meeting of your State Medical Society.

Robert S. Berghoff, M.D., Chairman
of Arrangements.

CANCER CONTROL ADVISORY BOARD

At the regular meeting of the Advisory Board to the Division of Cancer Control of the State Department of Public Health, Doctor Roswell T. Pettit, Ottawa, was elected Chairman of the Board and Doctor Edwin F. Hirsch, Chicago, was re-elected Secretary.

Other members of the Board are Doctors William Cooley, Peoria; Fauntleroy Flinn, Decatur; James S. Templeton, Pinckneyville; John A. Wolfer, Chicago; and James P. Simonds, Chicago.

The cancer control program of the State Department of Public Health is under the direct supervision of Doctor Raymond V. Brokaw, Chief of the Division.

An important feature of the cancer program at present is the support of Tumor Diagnostic services operated under the auspices of the Division of Cancer Control at the Memorial Hospital, Springfield; the Methodist Hospital, Peoria; St. Anthony's Hospital, Rockford; and the Burnham City Hospital, Champaign.

These facilities provide a group consultation service for the general practitioner in the diagnosis of his suspected tumor cases.

AMERICAN COLLEGE OF CHEST PHYSICIANS CANCELS 1943 MEETING

The following resolution was adopted by the Board of Regents of the American College of Chest Physicians at their Mid Winter Meeting at the Palmer House, Chicago, February 14, 1943.

WHEREAS: The American Medical Asso-

ciation has cancelled its annual meeting for the year nineteen hundred and forty-three; and WHEREAS: The American College of Chest Physicians has since its inception held its meetings jointly with the annual meetings of the American Medical Association. BE IT RESOLVED, That the Board of Regents of the American College of Chest Physicians meeting in Executive Session in the City of Chicago on the fourteenth day of February in the year nineteen hundred and forty-three, hereby proposes that the 1943 annual session of the American College of Chest Physicians be cancelled and that the reasons for the cancelling of this meeting are the same as those advanced by the Executive Council of The American Medical Association.

It was recommended by the Board of Regents that wherever feasible, State and District Chapters of the College arrange to meet jointly with their State and District Medical Societies and assist in preparing scientific programs concerning the specialty of diseases of the chest.

SPECIAL WARNING BULLETIN

Subject: Epidemic Kerato-conjunctivitis

Incubation period. Five to ten days.

Clinical Manifestations. The onset may be preceded by a low fever and mild generalized malaise. The local ocular symptoms are merely those of a foreign body or conjunctival irritation. One eye is usually affected first, and in a large percentage of cases the second eye becomes infected within five to eight days. Preauricular and submaxillary glandular involvement with tenderness is common in a high percentage of cases.

Edema of the lids and the conjunctiva, especially the transitional fold, is very frequent. The conjunctiva presents the appearance of a simple purulent conjunctivitis but with little or no formation of pus. Small areas of pseudomembrane are not infrequent and when removed leave either small white dotted points or some bleeding points. The bulbar conjunctiva becomes edematous early. At this stage, there is some lacrimation and photo-phobia, but real pain and blepharo-spasm do not appear until the cornea becomes involved.

The percentage of cases in which corneal involvement occurs varies from 50% to 90%. In six to twelve days after the conjunctivitis appears, the cornea becomes involved by the appearance of discrete gray infiltrates that lie in and immediately under the epithelial layer of the cornea. They may be confined to the periphery of the cornea but in a large percentage of cases involve the pupillary area of the cornea directly. These infiltrates are discrete and seldom become complicated by an erosion of the corneal epithelium with resultant staining with fluorescin. The extent of visual impairment depends upon the number of infiltrates and their location.

Clinical Course: The disease is self-limited. In the majority of instances, the conjunctivitis disappears spontaneously in 14 to 18 days. The corneal complication may disappear in seven days or may last for many months. The longer they persist the greater is the danger of permanent visual impairment.

Laboratory Findings: Scrapings of the conjunctiva show a preponderance of monocytes. Cultures and smears are either negative or show the usual contaminations.

Treatment: There is no specific treatment that has shown a definite influence upon the course of the disease. During the acute stage the eyes should be kept clean with irrigations of boric acid, normal saline, or one to five thousand oxycyanid of mercury. If there is much photophobia, 1 per cent holocaine may be instilled at frequent intervals. Five per cent sulfathiazole ointment has been used, as has 5 per cent solution of sodium sulfathiazole sesquihydrate. For persistent corneal infiltrates, x-ray has seemingly yielded some results.

Period of Infectivity: It is not yet known how long the danger of transmission to others exists. At present for practical purposes a sufferer from Epidemic Kerato-conjunctivitis may be allowed to return to work when the active conjunctivitis has disappeared.

Preventive Measures: At present the only preventive measure known is complete isolation of infected persons. Inasmuch as the disease has been transmitted through medical personnel, the most meticulous asepsis must be insisted upon. Not only must physicians and nurses wash their

hands thoroughly with soap and water after each patient, but also eye droppers, solutions, instruments, etc. must be sterilized to prevent infection of non-contaminated persons. The infected individual must be told of the danger of transmission of this disease to others, not only in the plant, but even in the home surroundings. It is suggested that in industrial plants where Epidemic Kerato-conjunctivitis has made its appearance the following methods of procedure be adopted:

1. In smaller plants with a limited personnel, every individual with a red eye should be stopped at the entrance of the plant and sent direct to the plant physician to determine whether or not Epidemic Kerato- conjunctivitis is present.

 In larger plants where such a procedure is not possible, supervisors and foremen should be instructed in detail to make rounds immediately when a fresh shift starts, and send any individual with a red eye to the medical office.

2. If the cases are to be treated at the medical department of the plant, a separate room should be set aside for such cases and in that room there must be exercised the most scrupulous asepsis even to washing off the arms of the chairs in which the patients sit. Aside from the aseptic and separate care of the recognized cases of the disease, special cleanliness of the hands of the physician in the general clinic should be maintained, with the use of an effective disinfectant between cases, lest the infection be spread by means of undiagnosed cases, especially those suspected of having foreign bodies in the eye.

3. Every case of Epidemic Kerato-conjunctivitis should be excluded from the communal facilities of the plant until the inflammation has subsided to the point where the plant physician considers it no longer transmissible.

4. Explicit instructions should be given to every individual regarding the danger of transmission, and emphasizing the decrease in the war effort as a result of the time lost from Epidemic Kerato-conjunctivitis.

5. The local health authorities should be notified immediately of the existence of individual cases.

This statement has been prepared jointly by the United States Public Health Service and the Committee on Industrial Ophthalmology of the American Medical Association, for distribution to all physicians.

INTERNATIONAL COLLEGE OF SURGEONS TO MEET IN JUNE

The Fourth International Assembly of the International College of Surgeons will be held on June 14, 15 and 16 at the Waldorf Astoria Hotel in New York City, it is announced by Dr. Fred H. Albee, International President. The program which will be devoted to war surgery and rehabilitation will no doubt be followed with great interest throughout the nation and elsewhere not only by those directly connected with medicine, but also by the lay public as well.

Delegations made up of prominent surgeons from the United Nations in addition to those from other countries are expected to attend. The United Nations representatives will give outstanding examples of the progress being made in war surgery and rehabilitation under battle conditions by their respective countries.

Serving on the Publicity Committee with Dr. Bodenheimer are Drs. Max Thorek, Chicago, Ill. and Dr. Edwin A. Griffin, Brooklyn, N. Y.

Dr. Thorek is the International Executive Secretary.

WAR CONFERENCE

The medical, surgical and industrial hygiene experts who are so ably safeguarding the well-being of more than 20 million industrial workers have agreed to pool their knowledge and exchange their experiences regarding the many new and complex problems of today's wartime production. For this purpose their organizations —

The American Association of Industrial Physicians and Surgeons,

The American Industrial Hygiene Association, and

The National Conference of Governmental Hygienists — are combining their annual meet-

ings in a four-day "WAR CONFERENCE" at Rochester, New York, May 24-27, 1943. Among the problems to be discussed from a practical standpoint are:

The mass entry of women into industry;

Older-age employees, with their various associated problems; proper placement and employability considerations of the 4F rejectees;

Rehabilitation and proper employment of those already discharged from the military services because of disabling conditions:

Toxic and other hazards from new substances, new processes, and the use of sustitute materials;

Absenteeism; fatigue; nutrition;

Effects of long hours; double shifts; two-job workers; overtime; increased industrial accident rates;

Advances in the treatment of illnesses and injuries, and many others.

This joint meeting will be a report on the state of the nation, by the men who know, in matters of industrial health. Dr. William A. Sawyer, Medical Director of Eastman Kodak, is General Chairman; Dr. James H. Sterner and Lieut. Comm. J. J. Bloomfield are arranging the programs for the industrial hygienists.

Physicians and surgeons, hygienists, engineers, nurses, executives — all who are interested in the problems of industrial health and their solution — are invited to attend as many of the sessions as they can arrange for; no registration fee is required.

COMRADES IN COURAGE

The familiar Easter Seal with its crippled child dauntlessly facing the wind, as do our sailors symbolized on the horizon, carries the message of comrades in courage. Their gallant spirit in meeting trouble is the inspiration for the progressive program of the Illinois Association for the Crippled, 35 E. Wacker Drive, Chicago.

Their present program for the crippled who have become adults, fits the handicapped persons into suitable jobs. Three skilled placement counselors on the association's staff prove that the degree of usefulness among handicaps on jobs, depends upon the care with which they are placed, and that they are a resource for manpower in our war effort. Also, to the homebound crippled the association sends an occupational therapist who teaches them a craft, then markets their products.

The sale of Easter Seals, March 29 to April 16, supports this far reaching work for crippled children and handicapped adults.

PARKE-DAVIS WINS ARMY-NAVY 'E'

Detroit, already world-famous as democracy's arsenal of war weapons, achieved prominence in new field Friday, February 26th, when 2,700 employees of Parke, Davis & Company received the Army-Navy "E" pennant for excellence in production of materials for saving lives.

Brigadier General John M. Willis, commanding general at Camp Grant, Ill., presented the symbolic "E" pennant, which was received by Dr. A. W. Lescohier, president of the company.

Lieutenant E. B. Williams, senior medical officer of the Detroit Naval Armory, presented the insignia. John Tighe, representing the employees, accepted the insignia, an "E" pin which every employee is entitled to wear. Among the honored guests seated on the platform were Joseph Roberts, oldest male employee who began his service with the company in 1892, and Miss Lillian Paye, oldest female employee whose service with Parke, Davis & Company began in 1896.

"E" flags are flying in each of the company's branches and depots in the United States and "E" pins have been sent to all employees in this country.

The foundation of tuberculosis control is the finding of all cases of tuberculosis. An example has been set by the armed forces. Routine X-ray examination of the chests of apparently healthy people for the purpose of finding the disease, is now the accepted practice at induction centers. Yet inducted men are only a few millions of the population. What about the other millions of men, either too young or too old for service in the armed forces and the forty million women who are serving their country as workers or homemakers?

A chest X-ray should become an accepted practice in civilian life. Physicians should routinely X-ray patients coming for general physical examinations; hospitals should X-ray every patient seeking admittance; labor unions should X-ray their membership; medical departments in industry, especially war industries, should X-ray the chests of applicants for jobs. In fact, every person, young or old, should be X-rayed. W. A. Doppler, Ph. D.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

The National Conference on Planning For War and Post War Medical Services held in New York City, Monday, March 15, 1943, was attended by better than seven hundred men and women representing various Associations in the medical, hospital and pharmaceutical fields. Papers which were presented will appear in the American Medical Association Journal.

Of especial interest was a paper by Thomas T. Mackie, M.D., Lt. Col., Medical Corps and Executive Officer, Tropical and Military Medicine, Army Medical School, Washington, D. C. on "War and The Migration of Tropical Diseases." and offers new problems for consideration before, during and after the war. Another very deserving paper was by Lowell T. Coggeshall, M.D., University of Michigan School of Public Health, Ann Arbor, Michigan, on "Malaria — A World Menace." "Nutritional Diseases as a Post War Problem" by John B. Youmans, M.D., Associate Professor Med. Vanderbilt University School of Medicine, Vanderbilt University Hospital, Nashville, Tennessee, was also of especial interest, not only as a post war problem, but as a present day problem.

At the evening session Nelson A. Rockefeller, Co-ordinator of Inter-American Affairs, Washington, D. C. spoke of the health problems of the Americas. His talk was very interesting because it not only dealt with the health problems of the Americas, but with many other problems and the good neighbor problem. It was evident from his talk that much can be accomplished in the South America countries by carrying on the good neighbor policy, and that this policy would not in the end be a policy that would cost us money but rather one that should develop better understanding and better trade relations between the Americas. If one could read between the lines of Mr. Rockefeller's talk one would feel that our mission in the Americas, in many instances, was to help them to help themselves and that by so doing they would and are capable of working out many of their problems.

Mr. Norman Davis, American Red Cross, Washington, D. C. discussed "The Place of the American Red Cross in Medical Rehabilitation." It was his impression, gained from many years of experience in various countries of the world, that medical rehabilitation and the feeding of the now occupied countries could best be carried out by the Red Cross. The reason he stated was the Red Cross had had the experience, trained personnel and were familiar with the various peoples, their customs and their methods of approach. He again emphasized that our contribution should be to help these people to help themselves and to allow them to work out their own problems in their way. Again, if I can interpret his talk correctly I would assume that he feels that our stay in the European fields as far as rehabilitation should not be too long.

Morris Fishbein, M.D., Editor of the Journal of the American Medical Association, talked on "American Medicine's Contribution to the Post War World." Dr. Fishbein reviewed American medicine's contribution up to the present time, and its contribution to the war; and the contribution it could make and would make to the post war world. It was a brilliant exhibition

of American medicine and a strong plea for the preservation of American medicine largely in its present form and under the control of American medicine. He also discussed the Beveridge Plan and the plan proposed by The National Research Council for the United States.

On a whole the meeting was very instructive and brought together various groups interested in all of the problems, and I believed accomplished a great deal in coordinating the efforts of those interested.

One again feels that in the final analysis that the American Medical Association must lead the way in our present and post war problems relating to medical care and medical rehabilitation.

R. K. Packard, M.D.
Chairman
Committee on Medical Economics.

WRITER IN HYGEIA GIVES ADVICE ON MEETING THE MEAT SHORTAGE

Declares Care In Selection And Preparation And Use Of Substitutes Should Prevent Any Loss Of Necessary Proteins

Even in the face of meat shortages, a moderate amount of thought to the addition of other protein foods as a substitute for diminishing quantities of meat, plus careful attention in the selection and preparation of the meat which is obtainable, should suffice to prevent the average American family from suffering any loss of necessary proteins, Doris McCray, Cedar Rapids, Iowa, declares in *Hygeia, The Health Magazine* for April. In addition to supplying proteins, meats are also a valuable source of minerals, thiamine (vitamin B_1), niacin and riboflavin (vitamins B_2 and G). When meat is absent from the diet, the defiiciency may be made up by the addition of other foods rich in vitamins and minerals, Mrs. McCray states.

"While meat, and chiefly pork, is a good source of vitamin B_1, a loss of B_1 resulting from diminishing amounts of meat in the diet may be made up by means of an increased intake of whole wheat bread, enriched bread or cereals and milk," she observes. "Similarly, losses of riboflavin and niacin may be adjusted by the addition of foods other than meats, although it should be emphasized that in every area where market conditions permit, the inclusion of at least one serving of meat a day per person should be preserved in the interests of best nutritional results.

"Generally speaking, American habits of choosing, buying, preparing and serving meats have been wasteful of both food value and money. Americans in the main have scorned the animal organs and the cheaper cuts of muscle meat, tasteful and nutritious though these may be made. Many people habitually spurn fat meats. On the other hand, we rush to buy the cuts which include a large portion of bone and gristle, which represent waste, and we overcook most of our meats. . . .

"We should start at once to use hearts, livers, kidneys, brains, tongues, sweetbreads and meats high in fat to a greater extent than we have ever done before. We must protect against waste of the meats we buy, by prompt and adequate refrigeration of stored meats; we must protect against shrinkage by covering the exposed surfaces of meats stored in the refrigerator and by preparing them promptly — within a few hours, if possible, after purchase. . . .

"With the important exception of pork, which must be thoroughly cooked for safety, most fresh meats can be served rarer than they generally are with advantages of taste as well as nutrition. . . .

"It should be pointed out that spaghetti, rice, bread crumbs and cereal, often used to extend the number of servings of meat, provide much less protein of lower biologic value than the meat itself, although they have some practical use. It should also be noted that 'ersatz' dishes of beans, peas, lentils and the like . . . are foods having a lower biologic value than meat itself. They are sometimes referred to as meat substitutes, and they are useful, but one should make certain that milk, eggs and cheese are included in the menu to furnish biologic values similar to meat, chicken and fish."

★ BUY WAR BONDS ★

Medicine's Role in the War Effort

ARMY'S 1943 RECRUITING PROGRAM WILL REQUIRE 6,900 PHYSICIANS

Outline Of Procedure Reveals None Will Be Commissioned Until Found Available By Procurement And Assignment Service

The 1943 recruiting program of the Surgeon General of the Army calls for the commissioning of 6,900 physicians and approximately 3,000 hospital interns and residents, it is reported in *The Journal of the American Medical Association* for March 13 in an outline of the new procedure of processing physicians, dentists and veterinarians for the Army. The program also calls for the commissioning of 4,800 dentists and 900 veterinarians.

Physicians will be procured from the following twenty states and the District of Columbia: California, Colorado, Connecticut, Illinois, Iowa, Maryland, Massachusetts, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont and Wisconsin.

The following states have already contributed more physicians to the armed forces than the sum of their 1942 and 1943 quotas and will not be called on to furnish any more physicians, except interns and residents and except special cases for specific position vacancies, during 1943: Alabama, Arizona, Delaware, Georgia, Idaho, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, South Carolina, Tennessee, Texas, West Virginia and Wyoming.

It is stated that at present there will be no procurement of physicians, except interns and residents and in special cases for specific position vacancies, in those states not listed above. There will be no procurement of dentists, except special cases for specific position vacancies, in the following sixteen states; Alabama, Arizona, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

At the present time there are no restrictions on the recruiting of veterinarians.

In the instructions issued by the Army it is pointed out that the Surgeon General has discontinued all medical officer recruiting boards and that under the new procurement program no physician, dentist or veterinarian will be commissioned in the armed forces of the United States until he has been declared "available" by the Procurement and Assignment Service of the War Manpower Commission.

In each state the Procurement and Assignment Service has set up three state chairmen: medical, dental and veterinary. Each of these prepares a monthly quota list of physicians, dentists and veterinarians who are apparently suitable and who are available, for commissioning in the Army of the United States. This list is submitted to the central office of the Procurement and Assignment Service which sends a communication inviting such individuals to apply for service with the armed forces. On the reply card enclosed with the invitation the individual states his preference for the Army, Navy or Medical Department of the Air Forces. These reply cards are sent by the potential applicants to the state chairmen of the Procure-

ment and Assignment Service who in turn submit lists of such potential applicants to the Officer Procurement Service of the Army.

On receipt of such lists the officer procurement district office contacts the potential applicant and arranges for an interview regarding a commission.

Applicants will be requested by the officer procurement district office to complete all papers and take all steps required of them within fourteen days of the date of such request. If this is not complied with, a report thereon will be transmitted by the officer procurement district office to the state chairman of the Procurement and Assignment Service.

The decision as to the grade and appointment to be recommended for each candidate rests with the Surgeon General, not with the Officer Procurement Service.

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THE TREATMENT OF BURNS

Circular Letter No. 15 of the Office of the Surgeon General is concerned with the treatment of burns. It was issued on January 11 to all medical officers of the United States Army. The suggestions which follow are therefore recommended as routine in the army medical service:

1. *General.* — Burns, as discussed in this paragraph, include all cases with damage of the skin and underlying tissues due to heat, chemicals or electricity.

2. *Fundamentals of Treatment.* — (*a*) The prevention and control of shock is the primary consideration in the management of every burn.

(*b*) Proper prophylactic measures against pyogenic infection, tetanus and gas gangrene should be taken. Satisfactory end results, that is, minimal scar formation, largely depend on the avoidance of pyogenic infection; the moist surfaces of burns provide ideal conditions for bacterial growth, and it is therefore of paramount importance to employ, if possible, strict aseptic technic in operating on and dressing burns.

(*c*) Measures should be taken to relieve pain.

3. *Treatment.* — (*a*) General: (1) Proper steps for the prevention or treatment of shock should be instituted. In the presence of extensive burns quantities of plasma up to 12 units may be required during the first twenty-four hours. If available, concentrated normal human serum albumin in appropriate amounts may be used likewise. Transfusion of fresh whole blood is often needed to combat the rapidly developing severe anemia which follows extensive burns; when anemia exists, whole blood transfusion is particularly indicated as a preliminary to skin grafting. Parenteral fluid replacement other than that attained by means of plasma or whole blood transfusion should be accomplished by means of 5 per cent dextrose in sterile distilled water. The intravenous administration of sodium chloride solution should be reserved for those burn cases in which mineral depletion is pronounced, as when great loss of electrolytes occurs as a result of persistent vomiting.

(2) In all cases of moderate to severe burns prophylactic chemotherapy should be administered. Sulfadiazine is the drug of choice (sulfanilamide may be substituted) with an initial dose of 4 Gm. (60 grains). Subsequent doses of sulfadiazine should be given only under the direction of a medical officer. It should be kept in mind that, although sulfonamide therapy may serve to prevent infection, great care must be exercised in employing such therapy in burn cases. The extensive fluid loss and possible kidney damage so common in burn cases increase the danger of renal complications from sulfonamide therapy. Maintenance doses of sulfadiazine should be given in 0.5 Gm. (7½ grain) doses every four hours until such time as adequate kidney function can be demonstrated, under which circumstance the dosage may be increased to 1 Gm. (15 grains) every four hours.

(3) Prophylaxis against tetanus is indicated for all patients with second or third degree burns.

(4) A prophylactic dose of gas bacillus antitoxin may be given at the discretion of the medical officer.

(5) Pain should be relieved by adequate doses of morphine. Pain resulting from an extensive burn can ordinarily be relieved by a dose of ½ grain of morphine. In the presence of pronounced anoxia large doses of morphine are dangerous, and under such circumstances the dose should not exceed ¼ grain.

(*b*) First Aid or Emergency Treatment of the Burned Area:

(1) The burned surface should be covered with a liberal amount of boric acid ointment or, if this is not available, with petrolatum. The burn should then be covered with strips of a sterile fine mesh gauze (44 mesh gauze bandage is satisfactory). Over this should be added a smooth thick layer of sterile gauze dressing (large or small first aid dressings are especially suitable for this purpose). Finally, a gauze or muslin bandage should be firmly applied over the dressings.

(2) Contamination of burned surfaces by organisms from the nose and throat is responsible for most of the more serious infections which subsequently develop. Therefore, to minimize contamination from this source, masking should be practiced by the surgeon and assistants. If masks are not available, mouths should be kept closed.

(3) The prompt administration of plasma, when feasible, constitutes an important element in the emergency treatment of burns.

(*c*) Definitive Treatment of the Burned Area: The burned area should be treated as follows, standard operating room technic, if possible, being employed, with the patient, as well as all attendants, fully masked.

(1) Ether, benzene, lard or other detergents should be used to remove grease, if present. The burned area and then, separately, the surrounding skin are to be carefully cleansed, using neutral soap and water; green soap should not be used. Avoid the use of brushes in the cleansing of the burn.

(2) All blisters and loose shreds of epidermis are carefully removed, and this material is saved for bacteriologic study, if feasible. Skin that gives evidence of irreparable damage through its full thickness should be excised (evidence of irreparable damage to deeper layers of skin may not be apparent for several days, and excision in such cases should be done as a secondary procedure). The resulting wound should be handled like any other open surgical wound, primary grafting of skin being carried out if conditions permit. For painful surgical procedures or dressings, general anesthesia, preferably obtained by intravenous injection, should be employed.

(3) Burns of surfaces of any portion of the body may be treated with boric acid ointment. After thorough surgical cleansing, the burned area should be covered with a generous application of boric acid ointment. Strips of a fine mesh sterile gauze (44 mesh gauze bandage is satisfactory) should be applied. Over this should be added a smooth, thick layer of sterile dressing; this may consist of gauze, absorbent cotton, cotton waste or cellulose. The dressings should be held in place by an evenly and firmly applied bandage; stockinet or some form of elastic bandage is more effective than the ordinary roller bandage. The dressing should not be disturbed for ten days unless complications develop. Firm pressure is especially important in the case of burns of the hands and face. Immobilization of the part by splinting should be effected when feasible.

(4) As an alternate method of definitive treatment, burns of all surfaces except those of the hands, face, genitalia and those involving the circumference of an extremity may be treated with tannic acid and silver nitrate. This method, however, should not be employed in the instance of burns which are grossly contaminated or in which twelve or more hours have elapsed since the receipt of the burn. A freshly prepared 10 per cent aqueous solution of tannic acid is sprayed over the burned area. This is followed immediately by spraying the area with a mixture of equal parts of 10 per cent tannic acid and 10 per cent silver nitrate solutions. This mixture should then be sprayed on the burn every half hour until a satisfactory eschar has been formed. Care should be taken to avoid spraying normal skin about the wound. While drying, the burned area may be kept exposed to the air in a heated cradle. After the eschar is dry, it may be covered by a dry sterile dressing. In the absence of infection, the eschar should be allowed to separate spontaneously. If infection develops, the eschar must be removed from the entire infected area, and the latter should then be treated like any other infected wound, with the employment of appropriate systemic and local therapy.

(5) Isotonic solution of sodium chloride has been found useful in the treatment of burns involving the face, hands and especially fingers,

the flexures and the perineum. It may also be used for the treatment of surface infections following the removal of eschars produced by tannic acid or other agents. Saline solution may be employed in the form of packs or baths.

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TREATMENT OF FRACTURES OF HANDS AND FINGERS CAUSED BY GUNSHOT WOUNDS

V. GUSYNIN

Professor, Chair of Neurosurgery at Lenin Postgraduate Medical College of Kazan and Consultant Military Hospital of Tatar Soviet Republic.

(The following article was received by cable from the Soviet Scientists' Antifascist Committee. — Ed., J.A.M.A.)

Fractures of hands and fingers caused by gunshot wounds are frequent war injuries. The correct treatment is fixation and stretching the fingers over a solid cylindric body. This gives the fingers the physiologic half-contracted position. Fixation on a cylindric splint should be centralized on the fractured bone and pressure exerted on the point of fracture. This pressure prevents the bone fragments from moving, so that they heal and remain in position. A fixing bandage is applied with turns of the bandage crossing behind the broken bone at the point of fracture. The bandage passes between the fingers according to the position of the fracture in the direction of the wrist, around which transverse turns are made in both directions. The usual wide absorbent bandage is applied over the sterilized fixing bandage and is changed whenever it becomes saturated. The fixing bandage is not changed unless absolutely essential but is occasionally soaked with iodine. Healthy fingers must be left absolutely free.

I have also proposed the use of a so-called "drum splint," consisting of a wooden cylinder fixed to the split end of a flat splint. The flat splint is placed on the palm side of the forearm and injured fingers are placed around a cylinder. When necessary, the fingers are stretched by elastic bands fastened to the flat splint in a centripetal direction.

Fixation of fingers in a functionally essential position may also be carried out by use of a simple wooden roller.

In field conditions, a bottle 6 or 7 cm. in diameter may be used as a cylindric splint for fingers. The bottle is convenient because it can be used for physiotherapeutic heat treatment, the bottle being filled three or four times a day with warm water.

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PRESBYTERIAN HOSPITAL (CHICAGO) UNIT

Although U. S. Army General Hospital No. 13, the Chicago Presbyterian Hospital Unit, has not been called to active duty as a unit, the administrative officers, the 350 enlisted men and more than two thirds of its nurses are now in army camps and hospitals. The enlisted personnel reported to Camp Grant in December and to Camp Robinson in January, and the following medical officers had already reported for duty at Camp Robinson at the time the February bulletin of the Presbyterian Hospital of the City of Chicago was published. Lieut. Col. Homer K. Nicoll, chief of medical service; Majors Linden J. Wallner, Cyril V. Crane and George C. Turner, Capts. John Tysell and George Pelkey, and Lieuts. A. Deo Klein, D.D.S., and Robert K. Stockton, D.D.S. The commanding officer of the hospital unit is Col. Lyle S. Powell, and the administrative officer in charge of enlisted personnel is Major William T. Willis.

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HOSPITALIZATION OF WOUNDED FROM OVERSEAS

The War Department has promulgated a hospitalization distribution plan for patients returning to the United States from overseas providing for transfer to general hospitals in the interior of officers, army nurses, warrant officers, enlisted men, dietitians, physical therapy aides, members of the WAAC's, contract surgeons and other military personnel who are to be kept under further observation and treatment. While such transfers will not be made when a break in treatment might retard recovery of the patient, the general policy will be to transfer to general hospitals designated for special cases those persons who require special treatment and to send patients who will be discharged for disability or who require prolonged hospitalization to a general hospital in the vicinity of their homes. Such transfers will be made, generally, when there are 25 or more such patients.

LIEUT. RUTH STRAUB AWARDED LEGION OF MERIT

Lieut. Ruth M. Straub of the Army Nurse Corps left her home in Greendale, Wis., in 1939 to be commissioned at Fort Sheridan, Ill., and almost immediately was sent to Manila. On Dec. 26, 1941 Lieutenant Straub was sent along with hundreds of patients in a boat to Corregidor; in February she was ordered to Bataan to work in a field hospital in the jungle, and which all nurses were ordered to evacuate in April. Their small boat made the trip to Corregidor just ahead of the Japanese in May. Lieutenant Straub with eleven other army nurses and one navy nurse then boarded a submarine and were returned to the United States by way of Australia. Lieutenant Straub has now been assigned to the Marana Basic Flying School near Tucson, Ariz., after having been awarded the Legion of Merit at Washington, D. C.

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PHYSICAL THERAPY EQUIPMENT UNDER STRICT CONTROL

Physical therapy equipment was placed under strict control, February 16, by the Director General for Operations with the issuance of an order limiting its production and distribution. The order prohibits the manufacture of all types of physical therapy equipment except surgical diathermy units, electric bakers, fever cabinets and other items which it specifically names. The prohibition, however, does not extend to approved purchase orders for the armed services or for Lend-Lease purposes. All manufacturers of physical therapy equipment must file monthly production and shipping schedules on WPB Form PD-774. While the items specifically named are not placed under production limitations, their sale or delivery is subject to strict control and permissible only on purchase orders for the armed services, Lend-Lease, Board of Economic Warfare, hospitals or medical departments of industrial concerns. Items that cannot be manufactured hereafter may be distributed without restriction until present stocks are exhausted. Examples of items of this kind are vibrators, sun lamps and other heat applicators widely distributed through drugstores and similar retail outlets.

The order affects all distributors or dealers handling those items whose delivery is restricted and about twelve large and twenty-five smaller manufacturers of all types of equipment.

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COURSES TO ORIENT MEDICAL OFFICERS FOR THE AIR FORCES

A course is given at the Army Air Forces Officer Training School in Miami Beach, Fla., for the purpose of orienting medical department officers coming from civilian life and to prepare them for duty for the army air forces. This course is similar to the regular officer training school courses given for the air forces and yet varies in some respects to meet the special needs of medical department personnel. The military training given to the medical department officers is the same as that given by the army air forces officers. The academic training is given in subjects peculiar to the medical department. The medical department student officers have composed about one third of the student body of the officer training school since last November and they have frequently taken the military and academic honors. One of the first ten honor students in class 1942-R was Capt. Carl M. Binnig of Westfield, Mass. The training of the medical officers at the army air forces training school, Miami Beach, is under the supervision of Major Sidney Davidson, M. C.

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NURSING AND THE EMERGENCY MEDICAL SERVICE

The Medical Division of the Office of Civilian Defense is organized along the following functional lines: field casualty service, hospital care, nurse service, blood plasma production and distribution, rescue-first aid, gas defense, sanitary engineering, plant protection and scientific research. The Medical Division recently issued Bulletin No. 6, which summarizes the work of the nursing service and of the emergency medical service and that of volunteers in health, medical care and nursing. This bulletin contains also official information concerning the U. S. Citizens Defense Corps, the U. S. Citizens Service Corps, the Civilian Defense Auxiliary Group, home water supply precautions, protection against injury from war gases, and insignia, identification and dress for nurses.

PSYCHIATRIST AT WAAC CENTER

Dr. Nita M. Arnold, former Chicago psychiatrist, is a contract surgeon with the rank of first lieutenant at the First WAAC Training Center, Fort Des Moines, Iowa. She is under contract with the Surgeon General of the Army. Dr. Arnold was born in Buenos Aires, Argentina, in 1898 and graduated at the Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Prussia, in 1930.

URGES TURNING IN OF ALL QUININE NOT NEEDED TO TREAT MALARIA

A plea for physicians of the United States to turn in to the National Quinine Pool all supplies of quinine is contained in *The Journal of the American Medical Association* for March 13. *The Journal* says:

"Every physician is urged to contribute to the National Quinine Pool all supplies of quinine and other cinchona salts and alkaloids not absolutely essential in his practice for the treatment of malaria. These compounds are needed to maintain an adequate stockpile of antimalarial agents for use in the armed forces. Although synthetic substances such as atabrine are being produced in enormous quantities and are used wherever possible, there are many conditions for which the drug of choice is quinine. Until the war is over little cinchona bark of good quality will be forthcoming. The currently available barks from South America are of a low grade and sufficient only for the manufacture of totaquine, which is satisfactory for domestic use. The provisions of conservation orders M-131 and M-131A essentially restrict the sale, transfer, delivery or use of quinine salts and alkaloids to the treatment of malaria. Quindine is an exception which may be used in the treatment of certain heart conditions. Such restrictions will permit physicians to contribute unused and opened quinine supplies to the National Quinine Pool, care of the American Pharmaceutical Association, 2215 Constitution Avenue, Washington, D. C. Each package received will be tested for identity, pooled and assayed. The less common salts will be processed to quinine sulfate or hydrochloride. The materials needed are bulk cinchona salts and alkaloids, tablets, capsules and pills; quinine, quinidine, cinchonine and cinchonidine. Do not send preparations of quinine or other cinchona derivatives in combination with other medicinal agents; ampules and parenteral medication; liquid preparations or quinine and urea hydrochloride, quinine and urethane, quinine bismuth iodide, elixir iron, quinine and strychnine and similar preparations. The armed forces need all available quinine. Any contribution, no matter how small, will be useful; the need is urgent."

A MAJOR MEDICAL VICTORY

In an editorial pointing out the safety of pooled human plasma (the liquid portion of the blood), *The Journal of the American Medical Association* says in its March 20 issue that "The demonstration of the surpassing value of pooled human plasma in shock has been designated 'a major medical victory.'" *The Journal* points out that 'From a careful analysis of extensive data, [William] Thalhimer concludes [in a recent article] that in pools of plasma or serum, agglutinins are reduced to such a low level 'that no danger can result to patients from the injection of even large doses from these pools.' Large amounts of pooled plasma are given safely without any preliminary tests for compatibility."

Reporting on the recent accidental poisoning with roach powder of 263 inmates of the Oregon State Hospital, Salem, 47 of whom died, William L. Lidbeck, M.D., and Irvin B. Hill, M.D., Salem, and Joseph A. Beeman, M.D., Portland, advise in *The Journal of the American Medical Association* for March 13 that sodium fluoride, the chief ingredient of roach powder, should be packaged, labeled and distributed the same as any other well known poison. They also say it should be colored so it will be less easily mistaken for certain food substances which it closely resembles. In the Salem accident it was mistaken for powdered milk.

Young Father: "In your sermon this morning you spoke about a baby being a new wave on the ocean of life."

Minister: "I did."

Young Father: "A fresh squall would have been nearer the truth."

PRELIMINARY PROGRAM

OF THE

One Hundred Third Annual Meeting
Illinois State Medical Society

PALMER HOUSE

CHICAGO, ILLINOIS

MAY 18, 19, 20, 1943

General Sessions

OPENING MEETING

TUESDAY AFTERNOON, MAY 18, 1943

1:00 Meeting officially opened by the President, Edward H. Weld, Rockford.
Invocation—
Address of Welcome — The Mayor of Chicago.
Address of Welcome — President, Chicago Medical Society.
Report of Chairman, Committee on Arrangements, Robert S. Berghoff, Chicago.
Adjournment for scientific meetings.

TUESDAY EVENING, MAY 18, 1943

8:00 Oration in Medicine—
James E. Paullin, Atlanta, Georgia.

WEDNESDAY MORNING, MAY 19, 1943

11:00 Oration in Surgery—

WEDNESDAY AFTERNOON, MAY 19, 1943

1:30 President's Address—
Edward H. Weld, President, Illinois State Medical Society, Rockford.

THURSDAY MORNING, MAY 20, 1943

Induction of the President-Elect

Immediately following the completion of the second session of the House of Delegates, the President-Elect, George W. Post, Chicago, will be inducted into the office of President of the Illinois State Medical Society by the retiring President, Edward H. Weld.

All members and guests at the meeting are invited to attend this interesting function.

Joint Sessions

WEDNESDAY MORNING, MAY 19, 1943

Joint session of Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

9:00 Subject to be announced.
Frank V. Meriwether, Columbus, Ohio.
9:20 "Convulsions."
M. G. Peterman, Milwaukee, Wisconsin.
9:40 "Medical Education in the Present War."
Roscoe J. Miller, Chicago.
Discussion opened by Eben J. Carey, Milwaukee, Wisconsin.
10:20 "Facts and Fancies in Vitamin Therapy."
Anton J. Carlson.

THURSDAY MORNING, MAY 20, 1943

Joint session of Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

9:00 "Chest Wounds."
Lindon Seed, Camp Grant, Rockford.
9:30 Subject to be announced.
Frank B. Lusk, Camp Custer, Michigan.
10:00 "War Time Consideration of Syphilis."
Paul A. O'Leary, Mayo Clinic, Rochester, Minnesota.
10:30 "Film Demonstration of Virus Pneumonias and Their Complications."
Lt. Commander Warfield, Great Lakes.
11:00 "Epidemic Conjunctivitis."
Murray Saunders, Carlyle, Pennsylvania.
11:30 "Gonorrheal Infections in the Army."
E. H. Quandt, Camp Grant, Rockford.

Section Programs

SECTION ON MEDICINE

**M. Herbert Barker Chairman
Chauncey C. Maher Vice Chairman
George B. Stericker Secretary
**In Service.

TUESDAY AFTERNOON, MAY 18, 1943

2:00 "Heart Disease and Surgery."
Speaker to be announced.
Discussion opened by L. E. Hines, Chicago.
3:00 "Hepatitis and Cirrhosis."
Robert Keeton, Chicago.
3:30 "Hematology" — Round Table.
Howard Alt; Steven Otto Schwartz and Louis Limarzi, Chicago.

WEDNESDAY MORNING, MAY 19, 1943

Joint session with Sections on Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943

2:00 Chairman's Address —
2:30 "Shock Treatment in Psychiatry."
Vernon L. Evans, Aurora.
Discussion opened by Francis J. Gerty, Chicago.
3:30 "Cardiovascular Round Table."
Francis Murphy, Milwaukee, Wisconsin; Hermon H. Cole, Springfield; and Edgar M. Stevenson, Bloomington.

THURSDAY MORNING, MAY 20, 1943

Joint session with Sections on Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

SECTION ON SURGERY

**J. C. Thomas Rogers Chairman
Joseph S. Lundholm Vice Chairman
J. R. Buchbinder Secretary
**In Service.

"Posterior Mediastinal Goitre."
J. M. Mora, Chicago.
"Treatment of Burn Lesions With Biodynes."
Thos. F. P. Walsh, Chicago.
"Pulmonary Embolism."
Minas Joannides and Arthur Hess, Chicago.

"Which Peptic Ulcer Should Be Operated Upon?"
Karl A. Meyer and F. Stigeman, Chicago.
"Tumor Diagnostic Services in Illinois."
Harry Otten, Springfield.
"Transurethral Drainage of Seminal Vesicles in Seminal Vesiculitis."
Robert H. Herbst and James W. Merricks, Chicago.
"The Recognition and Management of Surgical Lesions of the Sigmoid and Pelvic Colon."
John M. Wolfer, Chicago.
"The Care of Cleft Lips and Palate."
L. W. Schultz, Chicago.
"High Ligation and Retrograde Injection of Varicose Veins."
Joseph M. Gault, Chicago.
"One-sided Spinal Anesthesia in Extremity Surgery."
David L. Murphy, Dixon.
"The Selection of the proper Surgical Incision."
Alfred B. Owen, Rockford.

Time schedules for the above list of papers will appear in the May Journal.

WEDNESDAY MORNING, MAY 19, 1943

Joint session with Sections on Medicine; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

THURSDAY MORNING, MAY 20, 1943

Joint session with Sections on Medicine; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.
(For Complete Programs, See Joint Sessions.)

SECTION ON EYE, EAR, NOSE AND THROAT

G. Henry Mundt Chairman
George H. Woodruff Secretary

TUESDAY MORNING, MAY 18, 1943

9:00 "Diverticula of the Pharyngo-Esophagus, One Stage Operation."
Max M. Kulvin, Chicago.
9:30 "Periphlebitis, Phlebitis and Endophlebitis of the Retina."
Ignatius Sommer, Chicago.
10:00 "Cranial Osteomyelitis in Children."
Glenn Greenwood, Chicago.
10:30 "Head and Neck Neoplasms."
L. B. Bernheimer, Chicago.
11:00 "Industrial Ophthalmology and Otolaryngology."
Gordon F. Harkness, Davenport, Iowa.

TUESDAY AFTERNOON, MAY 18, 1943

INSTRUCTION COURSES

2:00 "Meniere's Syndrome."
John R. Lindsay, Chicago.
2:00 "Selection of Types of Operation for Cataract Surgery."
Samuel J. Meyer, Chicago.
3:30 "Treatment of the Sinuses by Irrigation."
O. E. Van Alyea, Chicago.
3:30 "The Treatment of Some Conjunctival Diseases."
A. C. Krause, Chicago.

TUESDAY EVENING, MAY 18, 1943

6:00 Banquet.

7:30 "Masterpieces of Man and Nature in Color Photography."
The 1942 Art Institute Exhibit of Rembrandts and other Dutch Masters reproduced by color photography.
The second portion will consist of views of some famous gardens and many gorgeous views of Zion, Grand Canyon and Bryce Canyon National Parks.

WEDNESDAY MORNING, MAY 19, 1943

9:00 "Fuso-Spirochetal Tracheobronchitis."
Paul H. Holinger and Ralph G. Rigby, Chicago.
9:30 "Results of Surgical Treatment of Acute Congestive Glaucoma."
Peter C. Kronfeld and H. Isabelle McGarry, Chicago.
10:00 "Nasal Sinusitis: Prognosis and Treatment Based on a More Rational Histopathologic Interpretation."
A. R. Hollender and M. F. Snitman, Chicago.
10:30 "A Potpourri of Clinical Cases in Kodachrome."
Roy O. Reiser, Park Ridge.
11:00 Business Meeting.

WEDNESDAY AFTERNOON, MAY 19, 1943

INSTRUCTION COURSES

2:00 "The Treatment of Some Corneal Diseases."
Sanford R. Gifford, Chicago.
2:00 "Allergy in Diseases of the Ear, Nose and Throat."
George E. Shambaugh, Jr., Chicago.

SECTION ON PUBLIC HEALTH AND HYGIENE

Henry C. Niblack Chairman
Roland R. Cross Secretary

TUESDAY AFTERNOON, MAY 18, 1943

War and Post-war Public Health Service
"Point of View of the Federal Government."
F. V. Meriwether, District Director, Dist. No. 3, U. S. Public Health Service, Chicago.
"Point of View of the State With Emphasis on Rural State Departments of Public Health."
Richard F. Boyd, State Department of Public Health, Springfield.
"Point of View of the City."
Speaker to be supplied.
"Point of View of the Public."
Mr. Frederic Woodward, Chairman State-wide Public Health Committee, Chicago.

WEDNESDAY MORNING, MAY 19, 1943

Joint session with Sections on Medicine; Surgery; Radiology; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943

Joint session with Sections on Pediatrics; and Obstetrics and Gynecology.

"Gynecological Problems of Adolescence."
Edward Allen, Chicago.
"Psychiatric Problems of Adolescence."
David Slight, Chicago.
"The War-time Maternal and Child Welfare Program."
Fred L. Adair, Springfield.
"Convulsions in Infancy and Childhood."
M. G. Peterman, Milwaukee, Wisconsin.

THURSDAY MORNING, MAY 20, 1943

Joint session with Sections on Medicine; Surgery; Radiology; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

SECTION ON RADIOLOGY

**Cesare Gianturco Chairman
F. Flinn Vice Chairman
Fay H. Squire Secretary
**In Service.

TUESDAY AFTERNOON, MAY 18, 1943

"Abdominal Tumors of Questionable Origin, Roentgenological Aspects."
Adolph Hartung, Chicago.

Film Reading Session
Chester Challenger, Chicago.
David Belin, Chicago.
John E. Madden, Decatur.
Fred H. Decker, Peoria.

WEDNESDAY MORNING, MAY 19, 1943

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

THURSDAY MORNING, MAY 20, 1943

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Pediatrics; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

SECTION ON PEDIATRICS

A. J. Fletcher Chairman
Robert Cummings Secretary

TUESDAY AFTERNOON, MAY 18, 1943

SYMPOSIUM ON NUTRITION
"The Pattern of Growth in Infancy and Childhood."
John Carey, Joliet.
"Nutritional Anemias."
Henry Poncher, Chicago.
"Vitamin Requirements in Infants and Children."
John R. Vonachen, Peoria.
"Scientific Diets and Feeding Habits of Infants."
C. A. Aldrich, Chicago.

WEDNESDAY MORNING, MAY 19, 1943

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943

Joint session with Sections on Public Health and Hygiene; and Obstetrics and Gynecology.
(For Complete Program, See Section on Public Health and Hygiene.)

THURSDAY MORNING, MAY 20, 1943

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

SECTION ON OBSTETRICS AND GYNECOLOGY

Clyde J. Geiger Chairman
C. J. Heiberger Secretary

"The Importance of the Outlet Contraction of the Pelvis in Obstetrics."
Ralph E. Campbell, Madison, Wisconsin.
Discussion opened by E. L. Cornell, Chicago.
"Inversion of the Uterus in Gynecology and Obstetrics."
Channing W. Barrett, Chicago.
Discussion opened by James H. Bloomfield, Chicago.
"The Treatment of Benign Uterine Bleeding in the Menopause."
J. Robert Willson, Chicago.
Discussion opened by Wm. T. Carlisle, Chicago.
"Surgical Complications of Pregnancy."
W. G. Cummings, Evanston.
Discussion opened by Wm. A. Malcolm, Peoria.

Time schedules for the above list of papers will appear in the May Journal.

WEDNESDAY MORNING, MAY 19, 1943

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Pediatrics.
(For Complete Program. See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943

Joint session with Sections on Public Health and Hygiene; and Pediatrics.
(For Complete Program, See Section on Public Health and Hygiene.

THURSDAY MORNING, MAY 20, 1943

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Pediatrics.
(For Complete Program, See Joint Sessions.)

PROGRAMS OF SPECIAL ORGANIZATIONS
SECRETARIES' CONFERENCE

R. T. Pettit Chairman
P. J. McDermott Vice Chairman
Fred H. Muller Secretary

TUESDAY EVENING, MAY 18, 1943

You and your friends are cordially invited to attend the Secretaries' Conference, Tuesday evening, May 18, 6:00 P.M., Palmer House, Chicago.

The officers have arranged a program which will be of unusual interest particularly at this time.

1. The Honorable H. H. Thomas, British Consulate General, Chicago, has accepted an invitation to talk on

"THE JAPANESE AS I KNEW THEM"

Mr. Thomas spent many years in Japan in diplomatic service and comes highly recommended.

2. Charles H. Phifer, Past President of the Illinois State Medical Society, will talk on

"LATEST DEVELOPMENTS IN PROCUREMENT AND ASSIGNMENT"

Probably no member of the Illinois State Medical Society has given more generously of his time and energy to the war problems faced by the profession than Dr. Phifer.

Make Your Plans Now To Attend! May 18, 1943!

MEDICAL WOMEN'S ASSOCIATION

The Annual Breakfast of the women members of the Illinois State Medical Society will be held at the Palmer House at 8:30 A. M., May 19th. The Annual Clinical Meeting will be held at the Women's and Children's Hospital that afternoon at 2:00 P. M. followed by tea at 4:30 P. M.

MEDICAL ALUMNI ASSOCIATION, UNIVERSITY OF ILLINOIS

The Medical Alumni Association of the University of Illinois will hold an annual luncheon at the Palmer House on May 19th, Wednesday, at 12 noon. An interesting program is planned. Due to food restrictions, reservations will be required. Please mail $2.00 to cover cost per plate. Guests are invited. Dr. George W. Post will preside.

Dr. M. H. Streicher, Secretary-Treasurer
1853 W. Polk Street, Chicago, Illinois

FIFTY YEAR CLUB LUNCHEON

Dr. Andy Hall, chairman of the Fifty Year Club of the Illinois State Medical Society is arranging the annual luncheon for members of the club to be held at the Palmer House, Wednesday noon, May 19, 1943. All members of the Fifty Year Club will receive a special anouncement and be urged to attend the luncheon.

An interesting but short program is being arranged and complete details will be published in the official program and likewise in the May Journal.

It is hoped that each member of the club will endeavor to attend this interesting annual luncheon, and Dr. Hall will appreciate any suggestions as to improving both the attendance and the interest. Address him at Mt. Vernon, Illinois.

MATERNAL WELFARE COMMITTEE LUNCHEON

The annual luncheon of the Maternal Welfare Committee of the Illinois State Medical Society, will be held at the Palmer House at 12:00 noon, Wednesday, May 19, 1943.

T. B. Williamson, Chairman of the Committee, will preside and immediately following the luncheon service, a round table discussion on "The Newer Developments in Obstetrics" will be presented by Frederick H. Falls, Chicago; Milton E. Bitter, Quincy; and Joseph T. O'Neill of Ottawa.

WOMAN'S AUXILIARY to the ILLINOIS STATE MEDICAL SOCIETY SIXTEENTH ANNUAL MEETING CHCAGO, ILLINOIS May 18, 19, 20, 1943

PRESIDENT'S MESSAGE

As President of the Woman's Auxiliary to the Illinois State Medical Society, I extend to all physicians' wives a most cordial greeting. It is the desire of the Chicago Medical Society as well as its component Auxiliary to welcome all physicians, their wives, and guests to this 103rd Annual Meeting in Chicago.

The purposes of a State Convention are:

1. To review and appraise the work of the year of the State Board and the County Auxiliaries.
2. To decide what work is to be undertaken for the coming year.
3. To devise plans for carrying on that work.

The Convention Chairman, Mrs. C. W. Stigman, and the Committee on Arrangements have planned a series of social functions in order that your sojourn in Chicago may be pleasant.

You are urged to make reservations as soon as possible in order to expedite the work of the committee.

We can assist our doctor husbands by our interest in this Annual Meeting.

Mrs. W. J. Wanninger, President.

ADVISORY COMMITTEE

Dr. F. P. Hammond, Chairman.
Dr. R. K. Packard Chicago, Ill.
Dr. S. E. Munson Springfield, Ill.
Dr. Harold Camp Mommouth, Ill.
Dr. M. G. Carpenter Elgin, Ill.
Mrs. Clarence Goodwin, Parliamentarian.

PROGRAM

TUESDAY, MAY 18, 1943 — PALMER HOUSE

9:00 A. M. Registration
10:00 A. M. Pre-Convention Board Meeting
Mrs. W. J. Wanninger, Presiding
12:00 Noon Adjournment
1:30 P. M. Star Spangled Banner:
Miss Jean Finch; Accompanist Mrs. Merle Finch

1:40 P. M. Invocation
The Rev. Richard D. Taylor, Rector Church of the Messiah, Chicago
Welcome
Mrs. C. W. Stigman, Convention Chairman
Response
Mrs. Arthur I. Edison, President, Woman's Auxiliary to the Chicago Medical Society
General Meeting—
Mrs. W. J. Wanninger, President presiding
Report of Credentials and Registration Committee
Mrs. C. C. Kane, Chairman
Reports of officers and chairmen

3:00 P. M. Address:
WOMEN AND A WORLD AT WAR
Dr. W. W. Bauer

6:00 P. M. Dinner—
Mrs. Alfred P. Gareiss, Chairman
Star Spangled Banner: Miss Jean Finch
Accompanist: Mrs. Merle Finch
Greetings — Dr. J. P. Simonds, Past President, Chicago Medical Society
Speakers: Dr. E. H. Weld, President Illinois State Medical Society
Mrs. G. Henry Mundt, Past President, Woman's Auxiliary to the Illinois State Medical Society, and organizer of Auxiliary
Introduction of Honored Guests, Officers and Committees

Dinner Program — Mrs. C. W. Stigman, Program Chairman
Miss Lois Wallner, Soprano
Mr. Earl Wilkie, Baritone
Miss Isabel Ebert, Accompanist
Miss Dolly Lane, Dancer

WEDNESDAY, MAY 19, 1943 — Palmer House

8:30 A. M. Registration

9:30 A. M. General Meeting — Mrs. W. J. Wanninger, President Presiding

9:45 A. M. Memorial Service — Mrs. P. P. Youngberg, Chairman

10:00 A. M. Final Reports

10:30 A. M. Symposium: PROBLEMS OF THE AUXILIARY
Mrs. Frank P. Hammond, presiding

11:45 A. M. Final report Credentials and Registration
Mrs. C. C. Kane, Chairman
Resolutions — Mrs. L. D. Evans, Chairman

12:30 P. M. Star Spangled Banner, Miss Jean Finch Accompanist, Mrs. Merle Finch

12:40 P. M. Presidents Luncheon — Mrs. Arthur I. Edison, Presiding
Introduction of Past State Presidents and Guests
Greetings — Dr. Frank P. Hammond
Address — Lt. Commander H. P. Saunders

2:30 P. M. Post-Convention Meeting — Mrs. M. A. Nix, Presiding

3:30 P. M. Tea or Tour — Mrs. Frederick Tice, Chairman

Committee

Mrs. R. K. Packard
Mrs. R. S. Berghoff
Mrs. J. S. Nagel
Mrs. L. B. Joslyn

CHAIRMEN AND COMMITTEES

Convention Chairman — Mrs. C. W. Stigman
Women's Activities — Mrs. Frederick Tice

Registration and Credentials Committee
Mrs. C. C. Kane, Chairman, East St. Louis
Mrs. A. C. Taylor, Chicago
Mrs. J. A. Bondzinski, Chicago
Mrs. R. F. Greening, Chicago
Mrs. H. H. Hurd, Highland Pk.
Mrs. C. R. Landis, Chicago

Press and Publicity
Mrs. J. E. McGuiggan, Chicago

Resolutions
Mrs. L. D. Evans, Aurora, Ill.

Reception Committee
Chairman. Mrs. Roy Hutchison
Mrs. John Soukup, Chicago
Mrs. Charles LaHodney, Chicago
Mrs. R. W. Hubbard, Chicago
Mrs. Frank J. Smejkal, Chicago
Mrs. George C. Turner, Chicago
Mrs. Stephen Biezis, Chicago
Mrs. E. A. Lutton, Chicago
Mrs. K. L. Vehe, Chicago
Mrs. H. W. Miller, Chicago
Mrs. M. M. Hipskind, Chicago
Mrs. Julius Ginsberg, Chicago
Mrs. W. J. Vopata, Chicago
Mrs. Frank Wojniak, Chicago
Mrs. T. B. Bondus, Chicago
Mrs. H. W. Elghammer, Chicago
Mrs. M. R. Hadden, Chicago
Mrs. W. F. Bartelt, River Forest
Mrs. Joseph La Rocca, Chicago
Mrs. G. B. Fauley, Chicago
Mrs. J. F. Hammond, Chicago
Mrs. Morton Baker, Chicago

Table Decorations
Mrs. N. I. Baskind, Chicago, Ill.

Dinner Committee
Mrs. Alfred P. Gareiss, Chairman, Chicago
Mrs. R. E. Johnson, Chicago
Mrs. A. J. Weigen, Chicago
Mrs. N. Dykstra, Chicago
Mrs. T. Johnston, Chicago
Mrs. M. R. Hadden, Chicago

Program
Mrs. C. W. Stigman

Luncheon Committee
Mrs. A. I. Edison. Chairman
Mrs. M. R. Haden (Aux Plaines)
Mrs. Nicholas Dykstra (Calumet)
Mrs. Henry Christiansen (Englewood)
Mrs. Reinhold E. Johnson (Irving Park)
Mrs. Myron M. Hipskind (Jackson Park)
Mrs. A. J. Weigen (North Shore)
Mrs. Harold I. Meyer (North Side)
Mrs. Anthony Linowiecki (Northwest)
Mrs. E. M. Egan (South Chicago)
Mrs. Theodore Johnston (Stock Yards)
All Past Presidents (Honored Guests)

Exhibits
Mrs. McGuiggan, Chairman
Mrs. Burroughs, co-chairman

Ricket Committee
Mrs. Calvin Short, Chairman (Northwest)
Mrs. C. W. Stuart (Aux Plaines)
Mrs. Henry Christiansen (Englewood)
Mrs. Wm. Murray (South Chicago)
Mrs. H. L. Wallin (Irving Park)

Memorial
Mrs. P. P. Youngberg, Chairman, Rock Island, Ill.

ILLINOIS CHAPTER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS

The Illinois Chapter of the American College of Chest Physicians will hold its annual meeting on Tuesday, May 18 at the Palmer House, Chicago. The speaker for the meeting will be announced in the May issue of the journal. Dr. Minas Joannides, Chicago, Vice President of the Illinois Chapter of the College will present a paper on "Pulmonary Embolism" in the Section on Surgery. Officers for the ensuing year will be elected.

PHYSICIANS' ASSOCIATION DEPARTMENT OF PUBLIC WELFARE STATE OF ILLINOIS

Rudolph G. Novick President
Ethel A. Chapman Secretary-Treasurer
Eric Liebert Chairman Program Committee

"Pathology of Chronic Alcoholism With Special Reference to The Nervous System."
W. R. Kirschbaum, Manteno.
"Nervous and Mental Manifestations of Spontaneous Hypoglycaemia."
A. A. Lieberman and H. G. Lonsdale, Elgin.
"Cranial Anomalies."
H. Josephy, Lincoln.
"Prevention of Hemorrhages During Electric Shock in The Nervous System of Experimental Animals."
G. Heilbrunn, Chicago.
"A Study of The Results of Electric Shock Treatment."
R. Gronner, Elgin.
"The Influence of the Draft on the Formation of Psychoses in Women."
M. Wallenberg, Manteno.
"A Rorschach Study of Symptomatic Schizophrenia Following Brain Trauma."
J. L. Endacott, Manteno.

INDUSTRIAL HEALTH CONFERENCE

Combined meeting of Central States Society of Industrial Medicine and Surgery and Chicago Society of Industrial Medicine and Surgery.

C. O. Sappington President
Central States Society of Industrial Medicine and Surgery
Clarence W. Hennan President
Chicago Society of Industrial Medicine and Surgery

Program Chairmen

James J. Callahan.....Thomas D. Browning

TUESDAY MORNING, MAY 18, 1943

9:00 President's Address (Chicago Society)
Clarence W. Hennan, Chicago.
"Industrial Health and the Employer."
Mr. Sterling Morton, President, Illinois Manufacturers Association, Chicago.
"Labor's Attitude on Industrial Health."
Mr. James Crosser, Chief Chemist, Industrial Hygiene Division, Illinois State Department of Labor, Chicago.
"Industrial Health and the Industrial Physician."
Harold Vonachen, General Medical Director, Caterpillar Tractor Company, Peoria.
President's Address (Central States Society.)
"Industrial Health — Its War and Post-War Significance."
C. O. Sappington, Chicago.
General Discussion.

MEETINGS OF THE HOUSE OF DELEGATES

TUESDAY AFTERNOON, MAY 18, 1943

3:00 First meeting of the House of Delegates called to order by the President, Edward H. Weld, for Reports of Officers, Councilors, Committees, Appointment of Reference Committees, Introduction of Resolutions, and for the transaction of other business which may come before the House.

THURSDAY MORNING, MAY 20, 1943

9:00 Second meeting of the House of Delegates called to order by the President for the Election of Officers, Councilors, Committees, Delegates and Alternates to the American Medical Association, Reports of Reference Committees and action on same, action on Resolutions, and for the transaction of other business to come before the House.

SCIENTIFIC EXHIBITS

Frank J. Jirka, Chairman Chicago
H. Close Hesseltine, Director of Exhibits, Chicago

"Intra-Capsular Fractures of the Neck of the Femur."
A. A. Mertz, Decatur.
"Modified Paris Technic of Radium Therapy for Uterine Cervical Cancer."
Harold Swanberg, Quincy.
"Anatomical Presentation of Bronchial Tree from Endoscopic Standpoint."
E. W. Hagens, Chicago.
"Skeletal Traction for Forearm Fractures."
John D. Ellis, Chicago.
"Modern Treatment of Seminal Vesiculitis."
Robert H. Herbst and James W. Merricks, Chicago.
"Caterpillar Tractor Company Health Program During Time of War."
Harold A. Vonachen, Peoria.
"Kidney Function—Extravasation of Urine—Bladder Regeneration."
V. Lespinasse and Victoire Lespinasse, Chicago.
"Amputations."
American Medical Association, Chicago.
"Information about Industrial Health."
American Medical Association, Chicago.
"War Manpower."
Procurement and Assignment Service For Physicians.
"Medical Care Program."
Illinois Department of Public Welfare.
The above list is not complete.

Technical Exhibitors

The Armour Laboratories, Chicago, Illinois
American Hospital Supply Corporation, Chicago, Illinois
Abbott Laboratories, North Chicago, Illinois
Ayerst, McKenna & Harrison, Rouses Point, New York
Bilhuber-Knoll Corporation, Orange, New Jersey
Burroughs Wellcome & Company, Inc., New York, New York
The Borden Company, New York, New York
Ciba Pharmaceutical Products, Inc., Summit, New Jersey
Cameron Surgical Specialty Company, Chicago, Illinois
Cambridge Instrument Company, Inc., New York, New York
Carnation Company, Milwaukee, Wisconsin
Camel Cigarettes, New York, New York
Chicago Pharmacal Company, Chicago, Illinois
F. A. Davis Company, Philadelphia, Pennsylvania
Doak Company, Incorporated, Cleveland, Ohio
The Doho Chemical Corporation, New York, New York
DePuy Manufacturing Company, Warsaw, Indiana
Eli Lilly and Company, Indianapolis, Indiana
C. B. Fleet Co., Inc., Lynchburg, Virginia
Flint Eaton & Co., Decatur, Illinois
General Electric X-Ray Corp., Chicago, Illinois
Otis E. Glidden & Co. Inc., Evanston, Illinois
Gerber Products Company, Fremont, Michigan
H. J. Heinz Company, Pittsburgh, Pennsylvania
Hoffman-La Roche Inc., Nutley, New Jersey
Horlick's Malted Milk Corporation, Racine, Wisconsin
The Kelley-Koett Mfg. Co., Inc., Covington, Kentucky
Kellogg Company, Battle Creek, Michigan
Lederle Laboratories, Inc., New York, New York
J. B. Lippincott Company, Philadelphia, Pennsylvania
Libby, McNeill & Libby, Chicago, Illinois
M. & R. Dietetic Lab., Inc., Columbus, Ohio
Mellin's Food Company, Boston, Massachusetts
The Medical Protective Company, Fort Wayne, Indiana
The C. V. Mosby Company, St. Louis, Missouri
Mead Johnson & Company, Evansville, Indiana
The Wm. S. Merrell Company, Cincinnati, Ohio
V. Mueller & Company, Chicago, Illinois
Nutrition Research Laboratories, Chicago, Illinois
The E. L. Patch Co., Stoneham, Massachusetts
Parke, Davis & Company, Detroit, Michigan
Picker X-Ray Corporation. New York, New York
Petrogalar Laboratories, Inc., Chicago, Ill.
Philip Morris & Co., Ltd., Inc., New York, New York
Pet Milk Sales Corp., St. Louis, Missouri
Riedel — deHaen, Inc., New York, New York
Schering Corporation, Bloomfield, New Jersey
E. R. Squibb & Sons, New York, New York
W. B. Saunders Company, Philadelphia, Pennsylvania
Sharp & Dohme, Philadelphia, Pennsylvania
Frederick Stearns & Company, Detroit, Michigan
Smith, Kline & French Laboratories, Philadelphia, Pennsylvania
S.M.A. Corporation, Chicago, Illinois
Sutliff & Case Co., Inc., Peoria, Illinois
White Laboratories, Inc., Newark, New Jersey
Winthrop Chemical Company, Inc., New York, New York
John Wyeth & Brother, Inc., Philadelphia, Pennsylvania
Zimmer Manufacturing Co., Warsaw, Indiana

NOTES ON TECHNICAL EXHIBITS

AMERICAN HOSPITAL SUPPLY CORPORATION, Booth No. 14

On display in Booth 14, occupied by American Hospital Supply Corporation, will be two new items of especial interest to all hospital people. Biodyne, the new healing agent for burns which has had so much favorable clinical comment, and Derma-Fresh, the body-rub which is so superior to hard-to-get alcohol.

Demonstrations of the E and J Resuscitator and a complete presentation of the Baxter Intravenous Therapy program will also be featured at the American booth.

THE ARMOUR LABORATORIES, Booths Nos. 87 and 88

A cordial invitation is extended to members of the Illinois State Medical Society to visit their exhibit in booths Nos. 87 and 88. The physicians will find an interesting exhibit on Thyroid. Case reports of thyroid deficiencies will be exhibited by means of wax models depicting cases of thyroid deficiencies before and after treatment. Armour's new and complete booklet on Thyroid also awaits you at the exhibit.

AYERST, McKENNA & HARRISON (UNITED STATES) LIMITED, Booth No. 33

Naturally occurring orally-active estrogenic hormones, "Premarin" and "Emmenin", the origination of which figures prominently in the background of Ayerst, McKenna & Harrison, will be given precedence in their display.

"Premarin", which culminates a ten years' search for a highly potent natural estrogen for oral administration, will be of particular interest. Reprints of original papers on the clinical value of this new product, by nationally prominent investigators, will be made available to interested members of the medical profession at the Ayerst booth.

BILHUBER-KNOLL, Booth No. 80

The "Council Accepted" prescription chemicals of Bilhuber-Knoll find an important place in war-time medicine because of their proved effectiveness and dependability. Metrazol — the respiratory and circulatory restorative; Theocalcindiuretic and myocardial stimulant; and Dilaudid-analgesic and cough sedative are receiving increasing use by the Army, Navy, and other governmental agencies. Art Murbach and Basil Kidwell will be on hand to discuss the latest reports on these and other well-known medicinal chemicals, including Phyllicin, Euresol and Bromural.

BURROUGHS WELLCOME & COMPANY (U.S.A.) INC., Booth No. 99

BURROUGHS WELLCOME & CO. (U. S. A.) INC., New York (Booth No. 99) presents a representative group of fine chemicals and pharmaceutical preparations, together with new and imporiant therapeutic agents of special interest to the medical profession.

CAMEL CIGARETTES, Booths 3 and 4

CAMEL Cigarettes will exhibit large detailed photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. Representatives will be available to discuss research. See for the first time the dramatic visualization of nicotine absorption from cigarette smoke in the human respiratory tract. Keep up to the minute on international news with the CAMEL Cigarette Trans-Lux "Flash Bulletins," while you enjoy a supply of slow-burning CAMEL Cigarettes.

CAMERON SURGICAL SPECIALTY COMPANY, Booth No. 78

See the Cameron Flexible Gastroscopes, Bronchoscopes, Esophagoscopes, Laryngoscopes, Binocular Prism Loupe, Color-Flash Clinical Camera, Mirrolite, Magniscope, and other new developments in electrically lighted Diagnostic and Operating Instruments for all parts of the body. Of special interest are the new Electro Surgical Units (the genuine Radio Knives) for cutting, coagulating, desiccating and fulgurating in all sizes from the office model Cauteradio to major Hospital Units with abundance of power for radical surgery.

CHICAGO PHARMACAL COMPANY, Booth No. 1

We will exhibit a complete pharmaceutical line which includes ampuls, tablets, friable pills, ointments, suppositories, elixirs, syrups and sterile solutions. Catalogs and samples will be distributed. Mr. B. M. Cahill will be in charge, assisted by local representatives. Our firm established in 1900 caters exclusively to the medical profession.

CIBA PHARMACEUTICAL PRODUCTS, INC., Booth No. 107

Physicians are cordially invited to visit booth number 107 where the well-known products of Ciba Pharmaceutical Products, Inc. are on display. Three new additions to the fine line of Ciba pharmaceuticals merit your attention. They are: Biotose, Trasentine-Phenobarbital and Privine. A well-informed representative of the company will be in attendance to supply information on any Ciba preparation.

F. A. DAVIS COMPANY, Booth 83

You carry Life and Accident Insurance to protect your family, Fire Insurance to protect your property, Automobile Liability and Medical Protective Insurance to protect your savings. Thirty thousand doctors have already **insured** their professional future by purchasing "The Cyclopedia of Medicine, Surgery and Specialties." Better insurance is not obtainable. See the new edition at Booth 83.

M & R DIETETIC LABORATORIES, INC., Booth No. 94

"M & R Dietetic Laboratories, Inc., booth number 94, will display Similac, a food for infants deprived partially or entirely of breast milk; also powdered SofKurd. Representatives will appreciate the opportunity to discuss the merit and suggested application of these products."

THE DOHO CHEMICAL CORPORATION, Booth No. 50

The Auralgan Exhibit consists of a model of the human auricle four feet high together with a series of twenty-four three dimensional ear drums, modelled under the supervision of outstanding otologists. Each of these drums depict a different pathologic condition based upon actual case observation, and prepared, in so far as possible, with strict scientific accuracy so as to be highly instructive and interesting to all physicians.

C. B. FLEET CO., INC., Booth No. 34

PHOSPHO-SODA (FLEET)

An ethical product for over half a century — a saline eliminant

What may you, as a physician, expect from this stable, non-toxic concentrate of the two U. S. P. sodium phosphates?

1. Accurate dosage, regulated to the patient and to his condition.
2. The maximum therapeutic effectiveness of sodium phosphate.
3. Quick, gripeless evacuation, for emergencies.
4. Mild, controllable elimination, for chronic biliary disturbance or constipation.
5. Unusual freedom from after-irritation, with normalizing buffer action.
6. Safe action with administration of the sulfonamides.

Are you getting the full value of medication in your daily problems of elimination?

OTIS E. GLIDDEN AND COMPANY, INC., Booth No. 67

Be sure to visit Booth No. 67, obtain full information on "IMPROVED ZYMENOL," Brewers Yeast content increased to 45%, mineral oil reduced to 50%. Now more than ever an effective two-fold natural therapy for CONSTIPATION COLITIS AND common DIARRHEA.

DOES NOT CONTAIN any irritant laxative drug. No artificial bulk or roughage. Sugar free.

HORLICK'S MALTED MILK CORPORATION, Booth No. 12

HORLICK'S MALTED MILK CORPORATION, Racine, Wisconsin (Booth 12) cordially invites you to visit their booth and enjoy a refreshing serving of chocolate malted milk. This palatable, delicious and easily digested food-drink is indicated as a supplement to liquid and semiliquid diets. It is basic nutrition because it is a scientifically well-balanced combination of proteins and carbohydrates of full-cream milk and choice grains.

THE KELLEY-KOETT MANUFACTURING COMPANY, Booth No. 76

The Kelley-Koett Manufacturing Company of Covington, Kentucky, manufacturers of X-ray apparatus, are exhibiting in Space No. 76 this year.

Conservation of existing X-ray equipment is of paramount importance to all physicians and hospitals. KELEKET has worked out a Conservation Plan that is unique and will be of interest to all owners of X-ray equipment. We recommend that you investigate this at their booth.

KELEKET will also show a line of accessories and supply items for the X-ray laboratory and dark room. This entire exhibit promises to be a very interesting one.

The KELEKET exhibit will be in charge of Mr. G. E. Geise, Vice President, assisted by Mr. H. D. Welch, Chicago district manager, Mr. Frank Geiger, Mr. J. F. McManemin, Mr. G. C. Heppe, Mr. G. L. Templar, Mr. P. Schick and other members of our Illinois staff.

THE KELLOGG COMPANY, Booth No. 57

All Kellogg ready-to-eat cereals either are made from whole grains or are restored to whole grain nutritive value.

Kellogg's Pep, (whole wheat flakes), in addition to being restored to whole grain value, has been fortified with Vitamins B_1 and D.

Corn Flakes and Rice Krispies may be included freely in wheat-free and low residue diets. Nutrition folders and further information about these products available at Kellogg exhibit.

MEDICAL PROTECTIVE COMPANY, Booth No. 18

The Medical Protective Company's representative, thoroughly trained in Professional Liability underwriting, invites you to visit exhibit booth No. 18. He is entirely familiar with the principles of the reciprocal rights and duties of a doctor and patient and with the circumstances peculiar to that relationship. He will be glad to explain how his Company meets the exacting requirements of adequate liability protection, which are peculiar to the Professional Liability field.

MELLIN'S FOOD, Booth 96

An exchange of ideas relative to the feeding of infants and in regard to the nourishment for adults requiring a restricted diet are of much value in view of the importance of selecting food best adapted to the individual requirement.

The Chicago Meeting will afford an opportunity for such discussion with representatives of the Mellin's Food Company and members of the Association are cordially invited to call at Space 96.

WM. S. MERRELL COMPANY, Booth 47

The Merrell exhibit will feature NITRANITOL, for medical management of essential hypertension, the BETA-CON-CEMIN high potency vitamin B complex products, and other modern therapeutic agents of broad usefulness to the practicing physician. Members and guests of the Society are cordially invited to visit the Merrell booth.

NUTRITION RESEARCH LABORATORIES

NUTRITION RESEARCH LABORATORIES will present three products, all of which are of extreme interest to the medical profession.

ERTRON, electrically activated vaporized ergosterol (Whittier Process) 50,000 U.S.P. units per capsule, continues to gain favor with members of the medical profession because of its therapeutic value in the treatment of chronic arthritis.

BEZON, Whole Natural Vitamin B Complex in capsule form, containing the whole B complex, derived entirely from natural sources and concentrated to a high potency.

PENDRON, the complete vitamin arch, containing all of the vitamins in amounts recommended by official governmental agencies and in addition recently discovered vitamin B factors — Vitamin B6 (Pyridoxine Hydrochloride) and Calcium Pantothenate (Filtrate Factor).

We welcome the opportunity of discussing all three products with members of the Illinois State Medical Society.

PARKE DAVIS & COMPANY, Booth No. 58

At the Parke-Davis Exhibit, which has been streamlined because of present war-time requirements, you will find many new and scientific Pharmaceutical and Biological Products. Included in this display are such outstanding preparations as Phemerol, a non-toxic germicide and antiseptic; Vitamins; Sulfa Drugs; Despeciated Anti-toxins, and a number of other products of timely interest. Able and courteous members of the Parke, Davis & Co. Staff are in daily attendance to serve you.

PET MILK COMPANY, Booths 90 and 91

An actual working model of a milk-condensing plant in miniature will be exhibited by the Pet Milk Company in Booths No. 90 and No. 91. This exhibit offers an opportunity to obtain information about the production of Irradiated Pet Milk, its uses in infant feeding, and the time-saving Pet Milk services available to physicians. Miniature Pet Milk cans will be given to each physician who visits the Pet Milk Booth.

PICKER X-RAY CORPORATION, Booth No. 106

In welcoming visitors to their exhibit, the Picker X-Ray Corporation is pleased to display the U. S. Army Field Unit and the Light-Weight Air-Flow Unit, both of which are in extensive use in the Army.

The Field Unit is designed for Radiography, Fluoroscopy, Superficial Therapy, and Foreign Body Localization.

The Air Flow Unit contains its own localization table, and may also be used as radiographic equipment.

PETROGALAR LABORATORIES, INC., Booth No. 92

Physicians are cordially invited to visit the Petrogalar exhibit at Booth No. 92, where a new and enlightening story on Petrogalar, an aqueous suspension of mineral oil, will be related. Beautifully colored anatomical drawings and new literature may be had upon request from our professional representatives who will be in constant attendance.

PHILIP MORRIS & CO., LTD., INC., Booth No. 64

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

W. B. SAUNDERS COMPANY, Booth No. 108

This publishing house will exhibit a complete line of their books. Most of them, particularly the new ones, are of unusual interest at this time, not alone to the doctors in civilian practice but also to those in the Medical Corps of the various branches of the Service. For instance, there are the Official Military Medical and Surgical Manuals published by Saunders under the auspices of the National Research Council, Lundy's "Anesthesia," Weiss & English's "Psychosomatic Medicine," Wharton's "Gynecology including Female Urology," Rehfuss' "Indigestion," Dry's "Cardiology," the new Boyd's "Surgical Pathology," the new Beckman's "Treatment," the new Christopher's "General Surgery," the new Mason's "Pre- and Postoperative Treatment."

SCHERING CORPORATION, Booth 66

Physicians are invited to the Schering booth where they will find information and literature dealing with recent and endocrine advances. The new sublingual of the adrenal cortex — will be demonstrated. Representatives will be pleased to discuss the speciality hormones, Progynon, Oreton, Proluton, and Pranone. Available, too, is the latest literature concerning modern therapy of rheumatoid arthritis with Schering's gold compound, Solganal-B Oleosum.

SHARP & DOHME, Booth 79

Sharp & Dohme will have their display at Booth No. 79, featuring "Lyovac" Normal Human Plasma, other "Lyovac" biologicals and biological specialties. There will also be on display a group of pharmaceutical specialties, such as "Sulfasuxidine" succinylsulfathiazole, "Delvinal," Sodium, "Propadrine" Hydrochloride products. "Rabellon," "Riona," "Depropanex," and "Prohexinol." Capable well-informed representatives will be on hand to welcome all visitors and furnish information on Sharp & Dohme products.

S.M.A. CORPORATION, Booth 97

Among the technical exhibits at the convention this year is an interesting new display, which represents the selection of infant feeding and vitamin products of the S. M. A. Corporation. Physicians who visit this exhibit at Booth No. 97 may obtain complete information as well as samples, of S-M-A Powder and the special milk preparations — Protein S-M-A (Acidulated), Alerdex and Hypo-Allergic Milk.

SMITH, KLINE & FRENCH LABORATORIES

Benzedrine Sulfate Tablets will be featured at this exhibit. It has been said that Benzedrine Sulfate offers "a therapeutic rationale which, in its very efficiency, cuts across the old categories." It is, therefore, useful in many widely varied fields of medicine.

Won't you call upon us if you desire information about the use of this highly important compound in depressive states; as an adjunct in the treatment of alcoholism; and in post-encephalitic parkinsonism, narcolepsy? One of our professional representatives will be glad to discuss with you its potentialities and possible indications in your own practice.

Benzedrine Inhaler, N.N.R., "Paredrine Hydrobromide Aqueous", "Paredrine" — Sulfathiazole Suspension, Eskay's pentaplex and Pragmasul will also be exhibited.

E. R. SQUIBB & SONS, No. 98

The Squibb Exhibit in Booth No. 98 will feature a number of new Chemotherapeutic Specialties, as well as the latest additions to their line of Vitamin, Glandular and Biological Products. Well informed Squibb representatives will be on hand to welcome you and to furnish any information desired on the products displayed.

SUTLIFF & CASE CO., INC., Booth 103

Sutliff & Case Co., Inc., established sixty years ago will display a portion of the many pharmaceutical items they manufacture. Their Illinois representatives will be on hand to greet you and will have any information you wish on their fine line of pharmaceuticals.

WHITE LABORATORIES, INC., Booth No. 70

Within recent years tremendous advances in vitamin research have added a wealth of clinical data to our knowledge of nutrition.

The intense interest of the laity, in the vitamins — often, unfortunately, confused and misled by unauthoritative lay advertising and uninformed "information" — can be properly controlled by the physician's interpretation of the actual usefulness of the vitamins to his patients.

In Booth No. 70 White Laboratories, Inc. presents its complete line of ethically promoted, clinically reputable vitamin preparations. Qualified representatives are in attendance to discuss with you the use of White's products in vitamin prophylaxis and therapy. Descriptive literature is available for your review, and a cordial welcome awaits you.

WINTHROP CHEMICAL CO., INC., Booth No. 56

The Winthrop Chemical Co., Inc., extends a cordial invitation to visit booth No. 56, where representatives will gladly discuss the latest contributions made by this firm to the medical profession.

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Symposium on Industrial Health

WE HAVE A JOB TO DO TO IMPROVE THE HEALTH OF THE INDUSTRIAL WORKER

The Honorable Dwight H. Green,
Governor of Illinois

The honor of addressing this gathering of business and industrial executives is an enviable one, and I am particularly happy to have the opportunity to discuss with you the problem of industrial health. It has long been a subject of great concern to me.

The health and well-being of the industrial worker now assumes greater importance than ever, in that it is a vital and inextricable part of the larger national and worldwide problem of winning this war and preserving the sacred principles of the American form of government.

The war today is unique among all the wars in history in that production of the munitions and other tools with which to fight is its most important factor. No longer are wars to be won by battlefield heroism alone, no longer can the traditional skill and matchless courage of the American soldier sweep us to victory unaided by production.

This is a war of planes, ships, tanks, guns, and explosives which require tremendous amounts of raw materials and an infinite amount of skill and speed in their manufacture. This is a war in which the industrial worker — the soldier of the home front — is equally as valuable and equally as necessary as the soldier of the battlefront. And his health and safety and morale must be studied just as carefully and treated with solicitation equal to that for our fighting men.

Our military leaders have been among the first to recognize the growing importance of the home front in modern war — and through their splendid system of Army-Navy E Pennants, and their decoration of individual workers who have shown exceptional talent and efficiency, our industrial managers and workers have achieved a place equal in honor to our soldiers in the ranks of our embattled nation.

As Governor of Illinois and Chairman of the State Council of Defense, charged with the responsibility of heading the Civil Government of this State during this period of war, and duty-bound to do everything possible to aid the war effort on the Illinois home front, I particularly welcome every opportunity to discuss a subject as vital to our success in this war as industrial health.

Military medicine defines its prodigious task in two words: Prevention and Restoration. Prevention has the high objective of keeping every soldier in action. Your task is to do the same for the production worker, without whose continued efficiency our soldiers, sailors, and marines would go unarmed.

I am informed that in the present day conflict it takes approximately ten men behind the line to keep one man, fully equipped, on the fighting front. Confronted by an emergency

expansion program in all fields, our industry has naturally found it difficult to attain a well-organized health program. But so important is the welfare of the worker to the volume of our war production, that your first concern, after enlarging your factories and establishing your production lines, should be for the health and safety of your workers. A general does not waste the strength of a well-trained army by exposing his men, improperly equipped, to enemy fire. Every American soldier, and every American worker is too valuable, too important to be needlessly sacrificed by poor leadership, carelessness, or ill-health.

Realizing the immensity of your problem, cognizant of the fact that the first and foremost objective of every industrialist, or factory manager, must be the actual production of the tools of war — no matter what the cost — your State Administration feels duty-bound to assist and encourage you in the attainment of those health objectives which are also a vital necessity to the continued flow of production.

We feel we can best serve you as a scientific, fact-finding agency, rendering advisory services and educational facilities. In addition, we can act in the role of a clearing-house of information. You must have the complete, wholehearted co-operation of all of you, however, if success is to be assured.

Illinois ranks as the third largest industrial State in the United States, and the largest in the Mid-West area. Recent census figures reveal that three and three-quarters million of the adult population of this state are gainfully employed, of which one and three-quarters million persons are in industries in which the environment presents potential hazards to health and well-being. Today, with the Mid-West serving as an arsenal, as well as a bread-basket for the Allied nations, with Illinois in particular emerging as the site of many of our greatest, most important war production plants, industrial hygiene has become one of our most serious problems.

Your State Administration is interested in the health of all the citizens of Illinois, whether they are employed in the factories or the shops, the city or the rural area, the home or the school. Illinois recognized the need for industrial health activity as far back as 1922, and at that time one medical officer was assigned to the field to visit and inspect industrial establishments.

In 1936, a further step was taken when the State Division of Industrial Hygiene was created as a branch of the Department of Public Health. Your present administration is interested in further expansion of this health program to meet the increased demands arising from the State's all-out war effort.

With the mobilization of man-power and industry, countless health problems are unfolding. While many of these are known and can be prevented, there are other industrial operations and processes which are new, or in their infancy, and will, as time goes on, add to the many dangers to the safety, health, and well-being of our production workers. War-time working conditions differ considerably from those of peace-time, and that is why the need for action, enlightenment, and co-operation between industry and health authorities is urgent.

Industry wrote a glorious page into American history when it grappled successfully with the problem of physical safety. How well the job was done — and is still being done — is told in the declining accident rates. Illinois industries have been in the vanguard in this achievement, and they can achieve the same distinction in helping to solve the health problem.

The factory owners and managers deal not only with machinery and materials, but with men and women as well. The worker brings to the general physical equipment of the factory his own personality and his own bodily machine. Upon the efficiency of the worker depends the speed and quality of production, but attention is too often given to the machine while the worker is overlooked. You cannot expect a machine to operate at one hundred per cent efficiency if the man who operates it is only fifty per cent physically equipped.

Although I believe the industry of our State has had a good health record in the recent past, the war is forcing many changes which constitute a positive health menace.

For instance, many of our factories are now working on war contracts which require them to use materials with which the management and the employees are unfamiliar. This unfamiliarity with the materials used can be dangerous to the worker's health and safety.

Another example is the type of worker industry is now employing. Because of the draft, nearly all the perfectly healthy young men of military age are going into the armed forces. This requires industry to employ many handicapped workers, and many more aged or infirm men. Necessarily, also, many who lack experience must be hired to fill the gaps caused by rapid expansion and the draft. The dangers inherent in these conditions must be met by proper foresight, planning, and an adequate health program with stress on preventive medicine.

I should like to be able to state otherwise, but the State Division of Industrial Hygiene reports that the plain, unvarnished truth is that there is much industrial ill-health. I am told that few large plants throughout the nation have more than ninety per cent of their workers on the job any one day in the week, and the principal cause of this absenteeism is illness.

The true cost of illness is almost incalculable. While the immediate cost to the worker may be figured accurately enough, hardly an illness occurs that does not involve much more than a loss of wages. A worker becomes ill and is absent from his duties. His wages cease at a time when he incurs the unusual expense of a doctor. The employer loses production and overhead, and the war manufacturing program is slowed down. Besides this financial loss to the worker and employer and the serious damage to the national war effort, the worker, because of his illness, has a potential grievance against his employer. This deals a further blow to morale and strains the relations between management and labor whose wholehearted co-operation is a vital necessity in these times.

It is obvious that the employer is not responsible for many of the ailments from which workers suffer, and there would be little reason for interesting himself in the problem if the worker would look after his own health, or if the community, as a whole, did its part. But, under the present circumstances, no other course is open but for the employer to shoulder some of the responsibility.

Industrial management fights loss as the medical profession fights disease. Loss is clearly one of the diseases of industry. It increases costs, decreases production and retards employment — and one of the greatest sources of industrial loss is ill health. Each year America, with its well-managed, carefully maintained, highly-efficient industrial machine, takes a loss of ten billion dollars caused by illness and accidents. This annual loss is serious enough in peace time, but in time of war it would be positively criminal to allow it to continue without attempting to reduce it.

I am happy to report that the majority of Illinois industrial establishments are giving their fullest co-operation to your State Administration in the fight to improve and safeguard the health of our workers. And judging the future from the past, I know that you will continue to co-operate in rapidly expanding programs.

In meeting the new threats to health that are daily arising as the industry of our State gears itself wholly to the war effort, you necessarily have often had to resort to makeshift methods. But it is my sincere hope that when this great war is over, and victory, at last, is ours, you will retain your revitalized industrial health programs in the peace which follows.

We are approaching the dawn of a new age, a happy age, an age which will be born as soon as the enemies of freedom and peace are stamped out. It will be an age in which the physical health and well-being of American men and women is going to receive more attention than it has in the past — because this war, if it has taught us anything, has taught us that the healthy and the strong are able to contribute the largest share to the winning of a battle, or the making of munitions. It naturally follows that the healthy citizen is a better citizen. Free, healthy people are happy people. They are tolerant of their neighbors and those who differ with them. They love America and the American way of life, and they will cling dearly to any reforms or improvements which may be developed to safeguard health, whether they arise from governmental or private sources.

One of the greatest single contributions that you in industry can make toward the happiness and general welfare of this great country of ours is to seek to improve and safeguard the health of your workers. It is to your advantage as well as theirs, and you will find your State

Administration ready and willing to assist you in that important work in every possible way.

We are working together in war, and we shall continue our close co-operation in peace, because that is the spirit of America, land of liberty, equality, and tolerance. From that spirit springs the bravery and self-sacrifice of our boys on the battlefield. our tremendous and continually increasing production of armaments, and that unity and co-operation of free American soldiers and workers, and free American industry and agriculture which makes America the most powerful nation and its people the most irresistable, unconquerable fighting force on earth.

THE URGENT NEED FOR BETTER LOCAL INDUSTRIAL HEALTH ORGANIZATION

C. M. Peterson, M.D.,

Secretary, Council on Industrial Health
American Medical Association

CHICAGO

Physicians and hygienists who have wide industrial experience believe that we possess enough information to make nearly every job safe, healthful and more productive. The equally firm conviction prevails that no nation engaged in modern warfare can tolerate unnecessary wastage of industrial manpower from preventable accident or disease. If these assumptions are correct, our immediate problem as employers, employees and professional people is to come to some agreement about how we can apply our knowledge of safe and healthful industrial procedure widely and yet with greater directness than has been the case formerly.

We have excellent evidence that competent industrial medical service is good business — it pays dividends in many ways. But before going farther, we had better describe briefly what we have come to regard as the essential elements in dependable health service for industry. They are:

1. A competent physician who takes genuine interest in applying the principles of preventive medicine, surgery and hygiene to employed groups and who is willing to devote regular hours to such service in the working environment.

2. Industrial nurses with proper preparation, acting under the physician's immediate supervision or under standing orders developed by him or by the committee on industrial health of the county medical society.

3. Industrial hygiene service directed at improvement of working environment and control of all unhealthful exposures, to be provided by physicians and others with guidance and assistance from the specialized personnel in state and local bureaus of industrial hygiene.

4. A health program which should include:

a. Prompt and dependable first aid, emergency and subsequent medical and surgical care for all industrially induced disability.

b. Health conservation of employees through physical supervision and health education.

c. Close correlation with family physicians and other community health agencies for early and proper management of nonoccupational sickness and injury.

d. Good records of all causes of absence from work as a guide to the establishment of preventive measures.

Now if all interested parties are to arrive at good mutual understanding of the objectives of industrial medical service, it seems to us in the medical profession that three steps must be taken:

1. We must determine to what extent employers are interested or willing to support one or more of the elements in the list of services already described. Fortunately, we have the example of successful administration of medical supervision in many plants. In the past, to be sure, they have been mainly large corporations but we do have reasonable assurance that, given a kind and amount of service they can support, smaller plants will avail themselves of the benefits of preventive industrial medical service. They may do so singly or in groups and with limited or full services. The matter of creating interest and support, however, should not be an obligation of medicine alone, but one which can be jointly undertaken by employers and doctors in many industrial communities.

Presented at Chicago Conference on Health of Industrial Workers, Palmer House, Chicago, Jan. 13, 1943.

2. Next, we must convince the employee that he stands to gain considerably wherever industrial medical service is competently and fairly administered, and that his own and his employer's interest should be almost identical in this respect. We must also persuade the worker to recognize the necessity for guarding his own physical welfare away from work as well as on the job. The finest working conditions avail little if co-existing bad housing, poor nutrition and improper use of leisure time negate an employer's efforts to make his working force healthier and happier. Here again the medical profession feels that although medicine can accept considerable responsibility for suitable programs of health education among the working population, results of lasting value will occur only if employees themselves, through their own efforts, make a real contribution.

3. The third and most direct responsibility rests squarely on the medical profession. Here again we have important steps to take:

a. We must do what we can to keep physicians, nurses and hygienists already placed in industrial service where they are in work which they are trained and prepared to perform (respecting, of course, the preeminent requirements of the military services.)

b. We must, through intensive postgraduate education, prepare our membership as a whole to be able to respond to increased demands for industrial health service.

c. We must make the best and most efficient use possible of local medical and health facilities through good local organization.

Organization. — The Council on Industrial Health, which I represent, is actively engaged in organizing committees on industrial health in the state medical societies and in all county medical societies located in areas where such a step is justified. We have recommended that the county medical society committee should contain representation from industrial practice, private practice, and the local health unit since these are the essential medical groups needed to supply the service. Obviously, the committee should understand the components of adequate service and be prepared to adjust them to existing medical and public health facilities and methods of community medical practice.

The committees, with local variations, will probably proceed as follows:

1. The committee in the county society should request instruction from the committee on industrial health in the state medical association and from the state division of industrial hygiene. Preferably, a preliminary conference should be held with representatives of these two agencies to establish:

 a. The lines of relationship and responsibility already existing between government, industry, labor and the medical profession.

 b. The principal industrial health problems of the community as a basis for remedial action.

 c. The proper organization and employment of local medical and health facilities.

 d. Supplementary services which can be called on from sources outside the community itself.

 The needs of small industry should be particularly stressed.

2. The names of all physicians now serving or willing to serve in industry should be determined. These physicians should be invited to attend a meeting at which the results of the preliminary conference just described can be reported and general details of the program presented for discussion and adoption.

3. Conferences should be held with other essential professional groups, particularly industrial or public health nurses and industrial hygienists, in order that dependable arrangements for services provided by these groups may be made.

4. The county medical society committee should then request a conference with the executives or a representative committee of the local manufacturers' association, chamber of commerce or both to describe the program and to determine how the

medical profession and the local health department can accelerate and improve production through appropriate health activity. Specifically, the following items should be discussed:

a. The essentials of industrial health service as outlined.
b. The health and economic benefits of such a service.
c. Methods of supplying this service.
d. Probable cost.

The committee of the manufacturers' association can well be asked to act permanently as adviser to the county medical society committee.

5. Active cooperation should be secured from local labor organizations both in respect to the conduct of medical services in the plant and to establish a program of health education in the community. Health education should emphasize particularly non-occupational factors which are of importance to the health of workers — nutrition, housing, proper use of leisure time, recreation and other related activities. The committee representative of local labor organizations should be requested to assume a considerable share of responsibility for the health educational aspects of the program and should regularly act in an advisory capacity to the committee on industrial health of the medical society.
6. The next procedure should be an open meeting conducted jointly by the county medical society and the local manufacturers' organization or chamber of commerce, to which employers, physicians, other professional agencies, representatives of labor and, in fact, the community at large, can be invited. This meeting will provide means for promoting the program widely throughout local industry.
7. Following preliminary organization, the activities of the county medical society's committee on industrial health will fall mainly under four major headings:
 a. Investigation of local causes of lost time in industry as a basis for necessary remedial service.
 b. Coordination of community industrial health facilities.
 c. Frequent education of the public about the benefits of an industrial health program.
 d. Continuous education of the medical profession as a means for elevating standards of industrial health service.

In all other ways the committee should exercise that degree of initiative and leadership which will properly represent medicine's responsibilities and opportunities in this important field.

In these and other ways, we hope that industrial health problems can be solved through sound community organization. The program is an urgent one if it is regarded as desirable to develop it on a voluntary basis. On that basis the service itself will persist and grow on its own merit — based on individual plant needs and the ability and initiative of individual physicians to meet them. In any event, our present faith rests on the county medical society plan as an expression of leadership by medicine in a field which represents a great responsibility during these trying days and an unequalled opportunity for lasting and beneficial service.

THE MEDICAL CARE OF EXECUTIVES

Walter C. Alvarez, M.D.
Division of Medicine, Mayo Clinic
ROCHESTER, MINN.

Today, with the world gone mad and the rapid production of munitions so essential to an early and successful termination of the war, one of the most useful things we physicians can do is to take good care of those all-important men, the executives, engineers, architects and other brain workers who keep millions of workers supplied with blueprints, tools, materials and technical training.

I need hardly remind you that a good executive is not easy to find or develop. To begin with, the necessary endowment of a fine brain, great energy, great endurance, ambition and willingness to assume responsibility, good judgment, skill in handling and leading men, and a tend-

Read before the Conference on Industrial Health (under the auspices of the American Medical Association), Chicago, Illinois, January 13, 1943.

ency to deal fairly with them are rarely found combined in one person. Then there must come the years of technical training and experience that are needed to fit a man for a supervisory position in modern industry. Evidently every able executive in industry today is a tremendous asset not only to his company but to the country as a whole and every effort should be made to keep him fit and to prolong his period of useful life.

That something needs to be done along these lines can be seen from the fact that the mortality of executives and other overburdened brainworkers, and the incidence of serious degenerative diseases among them, appear to be considerably higher than they are among men who work with their hands. In a recent study of 176 middle-aged executives of one company, Habein found that 13 per cent had a decided increase in blood pressure, 3 per cent were already suffering with angina pectoris, 3 per cent had gout, 2 per cent had diabetes and 18 per cent were suffering from duodenal ulcer. Other studies have shown that physicians, who work hard much as executives do, tend to die five or six years before their time, usually with diseases of the heart and arteries; and as one should expect, the more successful and hardworking the man, the shorter is likely to be his life.

Some may now ask, "But how can mental work, emotion and fatigue produce such definite and eventually fatal injuries to the body's tissues? What is the mechanism involved?" We physicians do not know exactly, but a new field of research in what is called psychosomatic medicine has been opened up, and already many interesting discoveries have been made. Already it is known that disturbing emotion leads to the formation in the body of a number of powerful druglike substances which produce troublesome symptoms. Emotion can also produce spasm in small arteries, and with this there can go a dangerous impairment of the blood supply to parts of the brain, heart, kidneys, stomach or joints. But whatever the mechanism involved, there is no doubt today that worry and mental strain can give rise to illness or can bring about flare-ups in the course of diseases such as angina pectoris, high blood pressure, peptic ulcer, arlesions and irritation of the bladder.

Sometimes as I sit in my office talking with men and women whose nervous system is cracking under the strain of modern life and its almost constant overload of mental activity, my mind shoots back to the days of my boyhood in Hawaii when I watched a primitive people earning their living happily with only a few hours of effort a day, and I think how many of the illnesses of our present society are due to the inability of our minds, designed originally for the small needs of an easy-going savage in a village, to cope with the exceedingly complex problems of today.

A few thousand years ago, when man's tools consisted of a few pieces of stone and his ken was limited to the valley in which he lived, already his intelligence and good sense were not equal to the task of either governing himself or keeping peace with his neighbors, but now that his tools and weapons are myriad and exceedingly powerful and his business interests and ken world-wide, he just has to make a mess of things because even the best brains of his leaders can hardly grasp, let alone cope with, all the complex problems that are constantly crowding in over the telephone, the ticker and the radio.

But some of you may say, "Are you not maligning the civilized man of today? On the average, hasn't he a much better brain than that of, let us say the average Polynesian from the South Seas?" The probability is that intelligence tests would show that the average American ranks higher than the average Polynesian, but I doubt if the difference would be large, and in both groups all types of persons would be found with an intelligence ranging from very good to very poor. Thus, in 1918, in our white native-born draft, one in four at the lower end of the scale was so ignorant or illiterate that he had to be given the Beta test designed for children or illiterates, and at the upper end of the scale only one in four had gotten as far as first year high school. All of the comparatively few highly intelligent men at the top of the scale became officers, technical assistants and clerks.

Evidently, then, there is only a small percentage of men in the nation who have the type of keen brain that can grasp the big problems of modern science and industry. This paucity of good brains in the community is bad enough;

what is worse is the fact that even these good brains often are unable to stand for long the strain of constant and heavy use. Like the brains of savages, they need more rest and peace than they get in modern industry.

The average man today, if he were to think of it, would assume that in the scale of evolution, he is far removed from his brutal forebears in the ancient world, but really he isn't. He is only some hundred generations removed from Moses and Joshua, and when one reads the many letters that have come down to us from that day, one finds that human nature hasn't changed much. Until the coming of Hitler, the world was steadily improving, largely because after centuries of struggle against tyrants, the good kindly people everywhere, the better class of business men and scientists and inventors had secured freedom to think, to talk, study and work; slowly they were gaining enough political power to keep their silly kings and politicians from leading them into foolish wars of aggression.

Obviously, the great difficulty with the world today is that weapons of tremendous power, designed and made by the few able men at the top, have been put into the hands of the many stupid ones and the ones who still have the brutal, marauding tendencies of their ancestors. In Europe, robber baron ancestors are perhaps some ten generations back, but in many other parts of the world men of that type are only a generation or two removed, and this is a fact that all thinking men must keep in mind, especially when the armistice comes. We of this world are like small children who have been given a hatchet or a revolver.

A few years ago, while visiting my old home in the Territory of Hawaii, I was so impressed at seeing the tremendous changes in the mode of living that have come there in but two short generations. Thus, one evening I watched a native musician using a steel guitar into which was incorporated an amplifying system of radio tubes. What I couldn't get over, as I listened to this man using one of the greatest inventions of the physical laboratory, was that fifty years before, his grandfather was living in a grass hut and going around naked except for a breech cloth. I knew this because when, as a child, I went with my parents to Hawaii, we lived next door to him.

How easy life was in those days. Occasionally the old man worked a while in his taro patch, occasionally he and his son pounded the cooked taro into a paste and occasionally he went with his family down to the sea to catch fish. It never occurred to him to gather more food than he needed for the day, because if he did, all that would happen would be that his relatives and neighbors would come and help him eat it up. And so, much of each day was spent lying in the shade, dozing or chatting with friends. That is the sort of easy-going life I found again when, later, I went to Mexico. Everywhere primitive man rests often, and he exerts himself only occasionally as when hunting, fishing or fighting. His brain, and that probably means our brain, would seem to have been built for this sort of interrupted labor.

That is why nervous breakdowns are so common in the United States today. Here a busy executive drives hard at his work from nine in the morning until ten or later at night, and he does this six days out of the week. With the help of telephones and two-way speaking systems he keeps in constant touch with scores of men, not only in his plant but in Washington, New York and everywhere he has interests. He talks business at luncheon and in the evening he may take home to dinner several men whom he wishes to make into influential friends. Finally at midnight he may dash for a train or plane which will take him to a conference some 500 miles away.

And on those few occasions when he does go out to play a little, he will probably get too tense over that; he will play golf as if he had $100 up on each hole and in the evening he may play poker for big stakes. Was his brain built to stand such constant activity? I am sure it was not and certainly it often comes to grief trying to stand it.

The other day, I saw in my office the vice president of a big manufacturing corporation — a stockily built man of forty who was beginning to crack up nervously. He had been getting "jittery" spells; he couldn't sleep, he couldn't sit still, he couldn't concentrate well and he felt at times as if he was going to faint or lose his mind. I asked him when he had had a real vacation and he said he never had had one. Twenty-four years ago, as a boy, he started as a helper in the foundry and ever since he

has worked all day to earn a living and half the night to prepare himself for the next move up the ladder to success. I said, "You have got to take a rest," and he answered, "How can I? At a time now when I am driving my subordinates without mercy how can I ease up. If I did, I would feel like a slacker." But when he told me of his great responsibilities in getting out millions of dollars' worth of parts essential to the building of battleships, I insisted that it was his duty to his country to take a rest so he wouldn't go on and go to pieces completely. If he were to crack now, where on earth would his company find another man with all his technical training and skill? I told him also that his vacation would have to be a restful one and much of the time should be spent in lying around and catching up on his sleep. I pointed out to him that since he couldn't very well take off a month at a time, he just had to start running away every so often for a few days. Such short rest periods would bring much less disruption to his work than would a long period.

I asked the man if he had enough assistants and if he had learned, like a good executive, to delegate authority to them. Many men in executive positions break down because they cannot learn to get other men to do part of their work. Many a time when the president of a corporation sees that a valuable executive is breaking under the strain the best thing he can do is to supply him with an assistant or two. I read once that a president of a telephone company liked to raise an executive's salary whenever he came into the man's room and found him sitting apparently idle. His idea was that that man evidently knew how to get others to do the work while he sat and planned for the future. I remember Dr. W. J. Mayo's once saying to me that he was sure he was of more value to the clinic while sitting on the deck of his yacht than while at his office seeing patients. On the boat he had time to think ahead and plan and prepare to meet the problems that were sure to come with changing economic conditions and new legislative trends. Obviously, if an executive lets himself be driven every minute of the day by the problems of the moment, his department or his company will soon start dropping back in the race.

BAD HABITS OF EXECUTIVES

As Doctor Habein pointed out in his study of the lives and living habits of executives, they not only work too long hours in the office but most of their time outside is taken up with talking shop and making contacts which will be helpful to them in their business. The usual executive is a man who lives intensely and lustily and does strenuously whatever he sets out to do. Often he eats too much and this tends to bring disaster. It fills the blood with poorly burned toxins, it adds to the load on the heart and kidneys and it favors the development of degenerative diseases such as hypertension, gout, diabetes and arthritis.

Most executives, because of their nervous tension, tend to smoke too much. Doctor Habein found that 62 per cent smoked over a pack of cigarettes a day, 27 per cent smoked two packs and 21 per cent smoked more than two packs! A few years ago, Raymond Pearl, the world's greatest authority on longevity, published statistics to show that between the ages of thirty and fifty years, one out of five heavy smokers dies before his time, which suggests that heavy smoking is even more harmful than is fairly heavy drinking. A few executives drink a little more than is good for them but most of them are moderate because they know so well that if they drink too much they will no longer be clearheaded and efficient.

Doubtless many waste a great deal of nervous energy each day in "flying off the handle" at employees and others. This sort of thing is very tiring and it injures the body, not only of the man who does the bawling out, but of the poor unfortunate "bawlees" who are left hurt and shamed and rebellious. I often tell executives of my experience once with an extremely choleric old millionaire who when he got good and angry with a man sometimes threw him out through the glass door of his office. When I was able to show him that in one of these tantrums his blood pressure jumped from its usual 170 mm. to 230 mm. of mercury he became alarmed and promised to mend his ways. Later, his secretary told me that the old gentleman had done remarkably well until one day

when he saw that a man was trying to cheat him on a deal. His face turned red and he started to go into one of his rages, when suddenly he stopped and said to the offender, "Quick, get the hell out of here, — I can't afford to get mad at you!" And so, ever since, I have said to short tempered patients, "You can't *afford* to get angry at anyone. It is too expensive a luxury."

It is a curious fact that Habein found that 7 per cent of the 176 executives studied had syphilis. This is much higher than the figure one would expect to find in a group of average American educated men. It would seem that the executive with all his tremendous energy tends to get into a certain amount of mischief which sometimes isn't good for him.

DANGER SIGNALS

Now how is a man to know when his nervous system is beginning to break down? What are the danger signals? Common symptoms are a sense of impaired health and energy, getting up tired in the morning, wearing out by noon, feeling a need for forcing the brain or feeling a sense of tension in the brain. Usually there come insomnia, increasing irritability, and impatience, ill humor, and a desire to snap peoples' heads off. Soon it will be hard to tackle the morning's mail and the making of decisions will be put off. The man will begin to coast on his job. It will be hard to read through a long report or to remember what was read. It will be hard also to sit through a conference and perhaps impossible to sit through a theater performance. Then may come alarming "jittery" spells, when the man may feel faint, dizzy or chilly, or uncertain of himself, or he will break into a sweat or will feel his heart throbbing wildly. He may become overly emotional so that he tends to weep.

A man with such symptoms should stop immediately and get a rest. He is so close to the edge of a nervous breakdown that any little cold or accident can easily take him over the edge and into a state from which he will find it hard to recover. As I say to such a man — the red lights are up and to run on through them can only bring a wreck. Besides, when a man is so tired, he is of little use in his office, and he might just as well be off somewhere resting.

OF WHAT SHOULD AN EXAMINATION CONSIST

Before going on a vacation it would be well to go to a good physician and have an examination made to rule out the presence of some other disease besides the fatigue state. A good doctor can tell the minute he hears the story that whatever else the man has, he has the beginnings of a nervous breakdown, but still he might have high blood presssure, kidney trouble or a cancer starting somewhere. Usually after taking a history and making a physical examination the physician will order a urinalysis and an estimate of the hemoglobin, or red coloring matter of the blood. If this should show that the man is anemic, the blood cells will be counted and studied; a Wassermann test for syphilis will be made, and perhaps what is called a measurement of the blood sedimentation rate. When this figure is low it is very reassuring because it tends to rule out the presence of cancer and other serious illnesses. A roentgenologic study of the chest is now a routine in many offices because it can quickly rule out the presence of tuberculosis or cancer of the lungs and it will tell several things about the heart. If there has been any question about the heart an electrocardiogram will be made.

In men past forty, it is well to see that the prostate gland has not enlarged enough to obstruct the outlet of the urinary bladder. If the blood pressure has gone up, an oculist should be called to look at the little arteries in the back of the eye. If he finds them hard and narrowed and beginning to rupture, the outlook for the man's future will be bad.

If the blood was found to be thin and anemic the stomach and bowel will have to be x-rayed so as to rule out the presence of cancers or ulcers. Any other clues which may happen to turn up during the course of the examination will, naturally, be followed out to the end. The sicker the man, the more extensive and careful the examination may have to be. In the case of older men who have broken down rather suddenly one must think of the possibility that there was a little stroke. Often then the man's grooming suffers and he will start going out with his clothes spotted and unpressed. Such a man must immediately be retired because his days of usefulness to his company are over and he will never "come back".

THE PHYSICIAN'S ADVICE

Granting that nothing serious has been found during the examination, the physician's advice will depend on what he has been able to learn of the besetting sins of the patient: sins of overwork, overeating, oversmoking, overdrinking or too strenuous playing. They say that the secret of prescribing a diet is to find out what the man likes and then take it away from him. Fats and sugar are probably the worst enemies of the man who tends to overeat and gain in weight. There is evidence now to show that some substances derived from fat accumulate in the blood and injure the arteries. If the patient smokes to excess and really wants to safeguard his arteries and prolong his useful life he should give up tobacco. It is useless to talk of tapering off because rarely can a heavy smoker do this; he must either quit or else go on smoking his head off.

The man whose heart muscle is not as good as it was must walk and live at a slower pace. Nature has given him shortness of breath or a pain in his chest as a signal to tell him when he is going too fast. If he is suffering with insomnia he may, for a while, have to take a nightly soporific. In my experience such drugs are often very useful, and if the patient has any sense at all there is no danger of habituation. The drugs commonly used today are not at all related to opium or morphine.

Sometimes the doctor can do much for an executive by treating his wife also and talking over with the two of them their grievances. It is unfortunate today that in so many cases "success" brings much unhappiness to both the man and his wife. Both feel lonely and dissatisfied, the man because his wife has not kept up with him as he has educated himself and grown up in the world; the wife because she sees so little of her husband and rarely has any chance to really live and play with him. I often think how fortunate is the eminent man of fifty who in his poverty-stricken youth had enough sense to pick a fine type of girl from a good family, a girl who would grow with him through the years and at fifty would still be young in spirit, with a good figure, an attractive personality, *savior faire,* and a good education, which would fit her to be not only a good helpmate and companion but a fine gracious hostess to meet and entertain his friends and business associates. Too often as he grows and educates himself, gets culture and becomes a leading figure in his city, she remains mentally and culturally much as she was when he married her. But even when the wife has grown mentally and spiritually, she often is lonely and unhappy and even thinking of divorce because for years he has been too engrossed in business to pay much attention to her. When the children are married and gone she feels that her work is done, and the man has no further need for her. The conflicts and unhappiness that come out of this sort of thing can be very disturbing to the able executive who needs every bit of nervous strength he has for his work.

Some times life goes sour also for the man and he begins to wonder if he has lived foolishly, wasted his life, missed love and paid too big a price for his money and his vice-presidency. Or he sees the position he has long coveted going to a younger man, and then the steam and the zest in life go out of him.

I shall never forget the sadness in the face of a broken looking man who consulted me a few years ago. Coming right to the point, he said, "Doctor, the other day I had my sixtieth birthday and it suddenly came over me that I have made a horrible mess of my life. All I have gotten out of nearly fifty years of the hardest sort of work are a big business and a couple of million dollars. The money has given me no pleasure because I never had time to spend any of it. Today I wouldn't know how to spend it. Because I neglected them so badly my wife and children left me long ago and went their separate ways. Today I am utterly lonely; I have nothing that gives me pleasure or warms my heart. I think now I would trade all my wealth for the knowledge that somewhere there is a woman who would be worried if I came home late to dinner. Look me over, please, and tell me if you think I can last long enough yet so I can perhaps learn really to live."

I thought of what Oscar Wilde used to say, that some of us get what we want in this world and that is our punishment. I remembered also a cynic's statement to the effect that the American is an animal who works incessantly to save money for a day when he'll retire and play, but before that time comes he gets a nervous break-

down and dies. I thought of Barry's remarkable drama called "Holiday", the story of a young man who, from early boyhood, had had to work so hard to gain a living and an education that he'd never had a chance to stop and wonder where he was going and why. Then, suddenly some money came to him, and he decided to use it for a holiday: a year in which he would take time to sit down and try to figure out what he should try to get out of life, and how he could spend it to the greatest advantage. How few of us have even thought of doing such a thing! We have been too busy doing the day's stint and too tired after getting home ever to stop and wonder if there isn't some way in which we could live more sensibly, use our life to better purpose, and perhaps to do what we'd love to do and thereby find more contentment and happiness.

During this war we must all work to the limit of our strength without complaining, but after the war is over, let us all do more thinking about life and how it might better be lived. Let us try to run the job instead of letting it run us.

WHAT CAN WE DO TO KEEP EMPLOYES AT WORK?

C. D. Selby, M.D.
DETROIT

Under the impetus of the war industrial medicine, like industry, has undergone conversion. Able-bodied young men were going into the military forces in large numbers, industries were expanding rapidly, and manpower shortages appeared. It was necessary to employ women, over-age men, and physically substandard people. Not considered to be important when labor supplies were ample, industrial absenteeism was suddenly projected into the limelight — and the proportion which is due to sickness has been found to be quite impressive.

Accordingly, industrial physicians have converted their programs (1) to provide measures for the safe employment of workers, including the women, over-age men, and the handicapped; and (2) to reduce the great number of man-hours being lost from production of war materials by sicknesses and injuries which are independent of employment, as well as those which "arise out of and in the course of employment."

While this conversion has been somewhat functional, it has been chiefly in the objective of industrial medicine. Heretofore, except in a few progressive industries, this was to control disabilities resulting from occupational injuries and diseases. Now it is to maintain the health and persons of the employes at the highest possible production level.

The pre-employment examination (for exclusion of the unfit) has been changed over to the pre-placement examination (for selective employment of substandard as well as whole and healthy people). The time-tried functions of industrial hygiene control, care of occupational injuries and diseases, temporary treatment of minor ailments and emergency sicknesses, medical consultations, health education, and record keeping, continue to be useful and important as heretofore.

Methods for relieving workers of their worries, maintaining their proper nutritional status, and preventing fatigue are being developed — and studies of sickness absenteeism are coming into practice.

Realizing that a great many doctors, not directly connected with the industries, treat sick workers and consequently are influential in determining absenteeism from sickness, a more understanding relationship between the profession and industrial medicine is being cultivated.

Industrial physicians were prepared for these changes before the war. The necessities of war production and the war manpower shortages incident thereto made acceptance possible.

In measuring the effectiveness of the modified program, studies of sickness absenteeism take priority. In locating special problems in health maintenance and pointing to possible solutions they are invaluable. Illustrating their use are comments on a study of the 1941 experience of a large employe population scattered among 104 manufacturing units located in 46 cities in 13 states. Because of inherent inaccuracies in the reporting of short absences, these were limited to disabilities which exceeded 7 days. But in

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figuring lost time all calendar days from inception to termination of disability were included, except in a few cases which exceeded 92 days. (The data were obtained from insurance reports and the coverage terminated in 92 days).

It should not be inferred that absences of 7 days and less are unimportant. On the contrary, they contribute substantially to the aggregate manpower losses — and sicknesses cause a substantial portion of them.

Absenteeism in General Motors' war plants is about 50% greater than during peacetime automotive days but the daily number of workers absent has been leveling off since September. The absentees who are off less than a week now amount to about 3%, compared with 1½% in peacetime. Absences from sicknesses of more than a week are now about 1%, representing little change from normal. Most of the short absences occur among new workers. They are receiving a great deal of attention from management and labor unions as well as the medical profession, but as an index of the effectiveness of the industrial health program they have little value.

In these studies there was no effort to obtain rates for the different age groups or occupations; for practical purposes only the highlights are essential. Both men and women varied from youth to 55 years and over. They were doing anything that was permissible under the law and they could do efficiently and safely. About one-eighth of the employes were women, slightly less than 20,000 in number. Since then, their number has increased considerably and in some units they now comprise as high as 75% of the workers, in others about 50%. As the employment of women is increasing and industrial physicians have not had a great deal of experience with their health problems, it is appropriate that their sickness absences should be considered in relation to those of men.

The over-all frequency rate of sickness absences in the women varied greatly in different communities and in different plants, from a low of 195.7 per 1000 to a high of 548.3, with an average for the entire female population of 320 per 1000. The average time lost per case varied from a low of 34 days to a high of 60 days, with an over-all average of 49 days per case.

These rates become significant when compared with the like rates of the male employes, which varied from a low of 38.1 per 1000 to a high of 144.5, with an average of 89.1 per 1000. The women's average rate was 320 per 1000. The time lost for male employes varied in different localities from a low of 25 days per case to a high of 57.8 days, with an average of 31.4 days per case. The average for women was 49 days per case.

Incidentally, the non-occupational accident rates, which were not included in the above, were for women, 19.9 per 1000; and for men, 13 per 1000. The time lost averaged 43 days for the women and 37.8 for the men.

Reduced to a simple conclusion these figures indicate that women are more apt to be absent because of sickness than men, and that they lose proportionately more time. Why does this occur?

If the specific causes for disability in women are analyzed and compared with the like causes in men, one outstanding reason becomes apparent. Their disabilities from the respiratory infections are over twice as high as those of men — in fact, almost as high as those of men from all causes.

The tuberculosis rate in women. It was twice as high in this study. Strangely enough, their pneumonia rate was one-half of that for men. Of course, the respiratory diseases are often epidemic and some localities show much higher rates than others. One notable exception was in the city of Rochester, New York, where the rates were quite low. Even so, in this locality the rates for the respiratory diseases in the women were much higher than those in the men.

So — one of the important problems with respect to sickness absenteeism concerns the prevention and control of respiratory diseases in women. What can industry do about it?

In an effort to obtain some information on this problem, the doctors who serve the employes of the 104 manufacturing units were canvassed. A composite of their recommendations is interesting, though somewhat conventional. They were fairly unanimous in recommendations as to rest, exercise, diet, clothing, temperature, regular habits and avoidance of excesses, and isolation of cases. There is anything but unanimity of opinion with respect to the use of cold vaccines and vitamin capsules.

What one doctor recommends as the five best methods is typical:

1. Regular and sufficient hours of sleep.
2. Regular meals consisting of proper foods.
3. Sufficient and proper clothing for changing weather.
4. Avoidance of crowds, congested places and direct contact with persons who have respiratory infections.
5. Correction, so far as possible, of contributing disturbances such as sinus infection, bad teeth, infected tonsils, and constipation.

Another doctor adds: "The defective or weak employe must be carefully placed so that he is not unduly and excessively exposed to temperature changes, variations in humidity, drafts, dusts and vapors." He also suggests: "An educational program in personal hygiene, emphasizing such common discourtesies as coughing, careless disposal of nasal secretions, explosive talking in one another's face, and spitting on the floor and in the machine tanks."

The corollary of the advice that persons get regular and sufficient hours of sleep is the admonition that they avoid excesses both in recreation and relaxation. One doctor voices the opinion of a large number of the medical group when he says: "The rest factor is even more important now, as I notice a tendency of a great many here to frequent night spots." And he continues by saying, "I know, because they come in for aspirins the next morning."

Share-the-rides, overcrowded busses and streetcars, congested locker rooms and eating places in the plants and out, make it difficult for workers to avoid crowds and sources of infection inherent in crowding. So another doctor recommends "consideration on the part of all who have colds." Of course he is thinking of those who spread infection by sneezing and coughing.

One doctor sought to effect some control over this problem by keeping the coughers out of the plant. He said: "During our recent epidemic of so-called pneumonitis it was our practice to send home anyone who had a cold and was coughing. In addition, and as far as we are able, anyone who had been out with a cold was not allowed to return until they had stopped coughing. This method helped, but of course it had very definite limitations. As soon as it became generally known that we were not allowing 'coughers' to return to work, they would say they were not coughing even though they were."

This same doctor made another interesting observation which indicates the indifference of people toward colds. "In the October issue of our plant paper," he said, "a suggestion was made that employes report to the medical department for advice on the prevention of colds. The response was very poor; only one individual came and asked for the information. I know of a few others who always get 'cold' sheets every year from their own physicians. Aside from these individuals it is my impression that people, in general, are not particularly concerned about doing anything to prevent colds. They seem to figure that a cold will last a few days anyway, so why worry about it."

One doctor looked at the problem of preventing respiratory infections from a practical industrial standpoint. His program is as follows:

"Advice to the Employe:

"1. We all recognize that with the increased working hours and the subsequent increased tension adequate rest and diet, suitable clothing, and general care of the health are the most important factors in the prevention of respiratory diseases. We try to impress this upon the employe.

"2. We advise all employes to report immediately the first signs of any cold. Temperature and pulse are checked, and any steps that are indicated are taken at that time. These steps may consist of therapy for an early cold or reference to their family physician.

"3. If an employe reports to us a full-blown cold or upper respiratory condition, we advise him to take care of it immediately, to see his physician, and we perform the usual general supportive measures. We feel that an employe with an elevated temperature and pulse should not work, and we have never had any trouble in convincing the employe of this. Along with this we feel that many employes now a days tend to return to work as soon as they get out of bed. In our opinion this is

not advisable even though general signs and symptoms have disappeared. We have seen several cases in which too early return to work has caused secondary complications which caused a much greater loss of time than the initial illness.

"What We Attempt to Accomplish in the Plant:

"4. We attempt to keep an even temperature in the working areas as far as possible, and naturally along with this goes the avoidance of drafts, etc. With the amount of ventilation we have, this is by no means a simple problem. We also try to avoid jobs where a man must work inside and then go outside in the winter. This would subject him to sudden changes in temperature, and the majority of people will not put on extra clothing when they go outside.

"5. There are certain jobs that must be performed in water, such as testing, etc. If this water is kept as nearly at the room temperature as possible it seems to not only decrease the number of complaints but also improves the general health."

There is nothing new in these recommendations, but even so they have germs of ideas which can be incorporated in the present industrial health program with a view to protecting employes, both men and women, office workers and hourly-rated people, against the respiratory infections. Without modification the ordinary placement and health maintenance procedures would do this sufficiently well if, in applying them, industrial physicians were accustomed to thinking of such catastrophes as colds.

Perhaps it would be better if they would regard the respiratory infections as environmental diseases, such as they do the occupational diseases, always remembering however that human contacts rather than industrial exposures are the primary causes. Having accepted this point of view, they can — and many of them do — offer the workers protective measures as follows:

1. Recommend correction of physical defects which predispose to colds — sinus infections, infected tonsils, subnutrition, etc.

2. For those who are susceptible, obtain work assignment that do not entail exposures to air contaminations, drafts, undue variations in temperature, crowded environments, etc.

3. Encourage the workers who are more apt to have colds to wear appropriate clothing. Perhaps uniform work clothes, such as coveralls, are the best.

4. Conduct industrial hygiene investigations and make recommendations with intent of correcting exposures which predispose to colds.

5. Defer employment, isolate, or give sick leave according to circumstances, when acute respiratory infections with elevation of the temperature are found, until acute symptoms subside and the temperature is returned to normal.

6. Foster the use of the medical department for the temporary alleviation of symptoms as early as possible after they appear. The slightest tickle in the nose or irritation of the throat is an indication for preventive treatment.

7. When symptoms get beyond these early signs, encourage the employment of private physicians; the patient to maintain the contact until cured.

8. On re-examination, or consultation, if the physical defects which predisposed to colds have not been corrected, make further efforts.

9. Keep records on personal incidence of colds with a view to making appropriate suggestions to individuals who have frequent colds, and by department, in the office as well as in the plant, with a view to controlling epidemics.

10. Before and during the season for colds, carrying on educational campaigns.

Resuming analysis of the studies on sickness absenteeism one observes that the rates for the digestive diseases in women are double those of men. Diarrhea, enteritis, and the miscellaneous digestive disturbances are three times as high — and for appendicitis it is twice as high.

Immediately, industrial physicians begin to speculate on this and, without committing themselves, wonder if the female eats the right kind of foods. Perhaps this would be worthy of investigation, and when large numbers of women are employed the problem might be sufficiently important to justify the engagement of a special nutrition counselor who thinks of something more than vitamins.

The appendicitis rate in men seems to be on the increase, and considering the absenteeism which results from this disease in both men and women, it has clearly become an important source of lost time. In the group studied it was responsible for more than 112,000 days of disability in one year — an average of 45 days per case. While appendicitis is not regarded as preventable, its disabilities are to some extent controllable and industrial physicians can approach the problem from that standpoint. The key is in the fact that neglected cases are more serious than those which are recognized early and operated on promptly.

Among the early signs is pain in the abdomen, and this is a symptom that quickly attracts the attention of the person affected. If he reports it promptly to the plant doctor, or if at home when the original attack occurs, to his own personal physician, the diagnosis can be made and arrangements completed for an early operation by the patient's own doctor. To succeed in this plan it is necessary for the plant doctor to carry on some educational work among the employes, and strange to say, this should be chiefly among the foremen.

Getting back to the sicknesses in women one notes the high rate of absenteeism from conditions which are peculiar to the female, mostly acute and chronic diseases of the uterus, tubes, and ovaries. The rate is 56 per 1000. However, it happens that in this particular group involved the employes have insurance benefits, including hospitalization and surgical fee insurance. As these features were put into effect but six months prior to the year of the study the high rate probably shows that employes were taking advantage of the opportunity to have chronic operable conditions corrected. With due allowance the rate is still high, and it points to a problem, the solution of which is not readily apparent in view of the limited examinations customarily given to women and the confidential nature of their peculiar ailments. However, considerable can be accomplished through the employment of a woman counselor, preferably a female physician or registered female nurse.

Continuing with the study one comes to the diseases of the nervous system, neurasthenia, nervous prostration, nervous breakdown, etc., and one observes that the rate for absenteeism from this source is 6½ times higher in women than in men. This does not necessarily imply that nervous strains are rampant among women in war industries, as only seven-tenths of 1% of them are involved. This percentage compares favorably indeed with the over-all total sickness absenteeism rate of 25% for women. In other words, disabilities from this source constitute slightly less than 3% of the total of sickness absences in women. What can be done about this? Again the employment of a women's counselor is suggested.

The last significant item in the category of disabilities is pregnancy, with an absenteeism rate of 73.8 per 1000, which is about equal to that of the respiratory infections.

Throughout this discussion it has been assumed that industrial physicians in general, and this audience in particular, are thoroughly informed on the relative frequency and values of disabilities resulting from occupational injuries and diseases and the conventional methods of controlling them. An effort has been made to uncover new opportunities for reducing manpower losses from sicknesses of a non-occupational character. To this end it has been deemed sufficient to make a superficial analysis of the 1941 non-occupational sickness absenteeism experience of a large group of industrial workers, about one-eighth of whom were women.

Giving attention only to the highlights it has become apparent that there are certain outstanding sources of manpower losses in conditions that were formerly thought to be of no concern to industry, only to the workers themselves and their private physicians. It has become apparent also that industrial physicians can do something to overcome these losses by studying their own sickness absenteeism experiences. In this way they can locate their special health maintenance problems which do not ordinarily come within the purview of the plant medical department, and they can see possible solutions through additions to or slight modifications of their ordinary industrial medical activities.

HOW THE SMALL PLANT CAN CONDUCT A HEALTH PROGRAM

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CHICAGO

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In large industrial plants, the medical department has become a definite part of the organization. The employer, the worker, and the community, alike, share in the established values derived from a factory health program that regularly serves all its employees, that throws around them healthy sanitary working conditions; that educates them in health and safety measures; and that places them on jobs for which they are individually, physically and mentally suited. Because of immediate returns, the medical program justifies and pays for itself year by year. This very fact of self-maintenance should clothe health programs in industry, large or small, with extraordinary significance as a measure for the general betterment of industrial relations, plant efficiency, production and absenteeism due to sickness.

At the present time there is a tremendous effort being employed in an endeavor to carry some of the modern advances in industrial health to the smaller industry. These small plants utilize the services of the principal part of our fifty odd million gainfully employed persons in the country. In Illinois, for example, 70 per cent of industrial plants employ 250 workers or less. Because it is these plants that are in dire need of adequate health services, the medical profession, together with others upon whom devolves the carrying out of this program, stand ready to help you.

The problem of medical service for the small industrial plant is not a new one and I do not wish to leave the impression that a cure-all scheme is herewith presented. Furthermore, and unfortunately, I cannot lay down for you a specific program to be applied to your plant. It depends on the number of employees, type of manufacture, location of the plant, materials used, workroom environment and potential or actual hazards in each individual plant.

Delivered before the Conference on The Health of Industrial Workers, Chicago, Illinois, January 13th, 1943.

However, time has permitted considerable education of all concerned, and so, today, with our broader concept of what constitutes a health program for industry, it appears that certain desirable measures in this connection might now be much more easily effected. A resume of problems and procedures and a reiteration of certain proved principles in this connection would, therefore, seem in order.

It has been found that many executives of small plants have a rather definite desire to help in maintaining the health of their workers, but a very vague idea about how they should do it. Few of them really know where to turn to enlist help. Not many of them have seriously considered the possibility of enlisting the part-time help of industrial physicians or available general practitioners, industrial nurses, private industrial hygienists, insurance carriers or the official industrial hygiene bureaus of local or State Health Departments.

While a number of the smaller plants have their own safety committees and all apparently manifest some degree of interest in safety methods, but few are found that seriously consider their factory health problems or how to correct them, or even attempt to instruct workers regarding factory health measures. And so, the younger worker learns from the older that certain plant conditions or manners of work are harmful, or that certain materials are poisonous and certain processes dangerous, and though, advice for his protection is given with good intentions, it is frequently misleading and founded on the superstitions of the older workers who boast of years of exposure. In this way, "industrial environmental hysterias" are created, with reference to health problems, and much money unnecessarily spent because management was uninformed or occupied with other matters. That is what actually takes place in the absence of a health program.

On the other hand, unless the smaller plant executive has been confronted with one of the major and publicized industrial health hazards, it is probable that the thought of seeking the services of those mentioned above, has never entered his mind.

The following is not a commercial plug, but rather an example of a service that has been available to the small plant in Illinois since 1936.

As a representative of the State Health Department, the fact that industry for the most part is conducted on the basis of private ownership, has not proven an obstacle to the Division of Industrial Hygiene in promoting and establishing health programs for those small plants not already provided with them.

How has this been possible? Because we have chosen to serve rather than to enforce; to instruct rather than to police. These can be instruments for great good. Like all public health agencies, our office acts as a clearing house of information — information which is already in print, and that which can be developed through special plant or workroom surveys and studies. It is important for the average employer to know that he has this ready source of information, to know that a request properly directed brings not only information, but service, if it is needed. We have found industry most cooperative, and so today 80 per cent of our work is upon request from management. There is no charge for our services.

In this way, our office and other official health agencies are supplying unbiased, uncolored information of environmental conditions in industry, and furnishing direct to management intelligent and comprehensive reports in which plant findings have been carefully weighed for significance, and fairly interpreted according to the best available knowledge in the field.

The services afforded in this way or through other consultants or agencies need not in any way interfere with the regularly appointed plant physician or the private practitioner at the disposal of management. The former groups mentioned need merely act as a case-finding body and refer the follow-up data and other recommendations to management and the physician in charge of the health program.

The small plant problem has challenged the best thoughts of the profession, and several alternatives have been suggested, the more feasible being that a number of small plants group together to provide a health program under a trained industrial physician. This has proven successful.

Another approach is to be found in the association of industrial physicians and engineers for the purpose of rendering to small plants medical supervision in quantities and character suited to their needs. For emergencies, services may be had by the plant by communicating with the neighborhood physician held in reserve for just such purposes. Plant environmental investigations are conducted at such intervals as may be deemed desirable from a knowledge of factory conditions. This method has the advantage of supplying at a low cost to the manufacturer the services of a group of workers qualified in a variety of industrial health problems.

In the smaller plants where such a staff cannot be supported financially, then close cooperation might be maintained between the physician to whom employees are referred for medical care and the engineering staff of the plant, the engineering staff of the compensation insurance carrier and, if possible, larger plants having similar processes in the factory area.

In Philadelphia, a plan reported in operation where one physician served five small factories varying in size from 100-550 men. In each of these factories there was an examining room and a treatment room. The doctor was in attendance one hour per week per hundred employees. A nurse also participated in this plan. The physician conducted preemployment and periodic checkup examinations. He was acquainted with the industrial processes and hazards of each plant, and advised management and the plant engineers in the control of these hazards. He gave health lectures, first-aid instruction and supervised plant sanitation. In addition, of course, he took care of industrial injuries and emergency non-industrial illness and injury. It was interesting to note that all but one of the participating manufacturers felt that the plan was so worthwhile that they increased the hours of attendance of both the doctor and the nurse above the original minimum.

For complete understanding, it is necessary that the employers need be considered. The following standards for an industrial health program in small plants are suggestively put forth as meriting your consideration.

1. Some or all of the activities should be carried out on the factory premises.

2. Activities should not be limited to emergency first-aid measures, but include some or all of such related services as pre-placement and periodic physical examinations, nursing services, health education, etc.

3. A first-aid room or dispensary, suitable in size and equipped to the individual plant, be maintained on the premises.

4. The physical make-up of the plant, such as atmospheric conditions, sanitation and drinking facilities, lockers, lunchroom quarters, etc., receive regular attention and conform to existing public health practices and other legal requirements.

5. Records in detail should be maintained as may prove of value to the employer or employee in the settlement of claims of any nature, or that may prove of value in the subsequent medical experience of the worker.

6. In plants of 250 workers or over, the services of the first-aid room or dispensary should be daily attended. This may be accomplished by having a nurse in attendance either on a full or part-time basis. Needless to say a physician should supervise the program.

Selection of the physician just because he is a nephew of the plant superintendent or because he belongs to the same golf club should not be the basis of selection. He should be chosen intelligently with respect to professional qualifications and character. All medical matters should come under his direct supervision. Nurses or attendants should be guided entirely by him.

The work of the physician in industry, as it is understood today, touches all departments and all activities of the industrial organization, and takes into consideration the total worker and his environment. It is only as his influence reaches out into the operating departments that his full possibility of service is realized. And furthermore, we must get away from the idea that a physician's telephone number constitutes an industrial health program.

There is nothing peculiar as to the equipment of the plant dispensary. It is merely ordinary medical and minor surgical equipment utilized in the care of industrial workers. The Committee on Healthful Working Conditions of the National Association of Manufacturers have published an informative outline and suggest that for factories of 200 employees or less, the dispensary have approximately 125 square feet of floor space. The estimated total cost for equipping this size room is about $300.00. For factories employing 200 to 500 workers, approximately 300 square feet of floor space should be available. Here the cost of equipping is about $500.00.

In the further planning of a health program, certain proved activities and procedures should be carefully considered for a successful outcome.

1. Medical examinations.
2. Environmental conditions in the factory.
3. Nature of manufacturing materials used

The purpose of medical examinations in industry is to assist management in placing the worker in occupations for which he is physically suited. By keeping in mind the three (3) reasons for rejecting an applicant for employment, viz., danger to himself, to others, or to property, it will be found only necessary to deny employment to a very small percentage of workers. It also serves as a source of information to guide the doctor in his subsequent efforts in behalf of the workmen's health, their continued safe employment and the fair adjustment of claims. For all purposes, reasonably complete physical examinations are advisable, including urine analyses, blood pressure readings, chest examinations and x-rays and such other procedures or tests as the physician may consider to be essential.

Knowledge as to the nature of the manufacturing materials used and environmental conditions in a plant are of importance when the health program is being arranged. Moreover, such factors greatly influence the extent and type of medical service. If harmful materials such as lead, silica, benzol, cadmium or chrome are used, the type of supervision adopted must provide special examinations of those workers who handle or are exposed to such substances. Furthermore, it promotes proper medical care and aids in formulating corrective measures. It also avoids possible errors in diagnosis; as for example, the confusion of lead poisoning and colitis or a

carbon monoxide exposure with migraine headaches. The plant physician who supervises your program and who undertakes these examinations, should familiarize himself with these special requirements as they are not often used in ordinary practice.

Some of you may say, "but that's big-plant stuff." Then one may as well argue that production efficiency itself is strictly a big-plant matter, which small plants cannot afford. That is not true.

There is no excuse for not being aware of the presence of every toxic substance used in a plant. Apparently the better way to be sure these days when so many new compounds are being introduced in manufacturing processes and operations is to check the list with the plant engineer or chemist, or with the many outside agencies, e.g., private industrial hygiene consultants, American Medical Association, industrial health units of the local, State and Federal government, and the industrial health committees of the local and State Medical Societies, manufacturers associations, insurance carriers and universities.

The above procedure is a practical and necessary precaution. It is part of a comprehensive health program. This survey technique is to a plant what a physical examination is to an employee. It can be spoken of as a diagnostic procedure. It is a kind of industrial health inventory, a check-up on health conditions.

Secondly, where possible hazards are noted, tests should be made to determine scientifically whether the exposure is sufficient to be dangerous. These tests usually involve air sampling and laboratory analyses. The third step, is the devising of practical measures to control any hazards detected. These measures may include the segregation or inclosure of a particular process, adequate exhaust ventilation, use of wetting methods, improved housekeeping and personal protective equipment. But processes change, equipment deteriorates, improvements develop, supervisors and workers get careless. Therefore, a fourth step, maintenance, becomes necessary. This means periodic check-ups to insure the "eternal vigilance," that is so essential to safe operation.

I have already mentioned the need for a nurse in establishing health programs. In those plants employing them, they are rendering excellent service. In some areas, the Visiting Nurses Association render hourly nursing service to some small plants. If the nurse has a flair for industrial work and adequate facilities are available, plus the support of the chief executive, she can slowly and surely grasp the problems involved and become invaluable to her employers. As an example of some of her duties, she can:

1. Assist the plant physician with examinations of employees. This is supplemented by follow-up work on recommendations made by the physician for defects discovered.

2. She can act as a liaison officer between plant physician, safety or personnel director and foreman in properly placing returned workers following illness or injury.

3. She can cooperate with local and state health departments for improved health standards. With the aid of the physician, these can be properly interpreted and then turned over to the management.

4. For worthy cases, she can be instrumental in securing the assistance of community agencies.

5. Besides giving and proving for first-aid under medical supervision, she can aid in coordinating her work for the betterment of industrial relations by:

(a) Assisting the safety department in the interpretation of its program.

(b) Assisting in developing recreational facilities.

(c) Serve as a dietitian for the plant lunchroom.

Over and above the occupational disease factor, there is a tremendous loss arising from ordinary illness of all kinds among industrial workers. The latter cannot be minimized in planning a health program. I refer to the chief acute illness as the common cold, digestive disturbances and nervous afflictions. Others are tuberculosis, cancer, syphilis, and malnutrition. Much of this situation is believed to be due to the failure to get to these workers and management the best knowledge upon the prevention of these afflictions. The failure seems to lie in education. Many informative and illustrated bulletins and

posters regarding any of the above are available through state health departments and other semi-official and private agencies. This type of literature should be part and parcel of every first-aid room and religiously distributed to workers. Educational movies are also available for this purpose.

We need to educate the employees as to the benefits that they will derive from these health programs. Workers in general cooperate very well if the medical service is efficient and unbiased. The physician or nurse have unusual opportunities for disseminating health information. Instructions offered at the time of examination, consultation or treatment, can be personalized and suited to the condition or needs of each individual. Each contact affords such an opportunity.

The value of adequate records, both sickness and accident, is also necessary for making your health program a success. Management must have records for the fair evaluation of claims, and the physician or nurse certainly should have complete records in order to demonstrate to management not so much as what has been done, but to demonstrate the advisability of continuing the program and to chart future action.

I am not trying to raise the banner of standardization, but it does seem logical that some close and uniform program and technique be considered and put into use.

I urge you to take a greater interest in developing a health program for your plant. This is particularly directed to managements of small plants whose medical services are usually limited to the care of emergencies only. There is more need for preventive medical practice and other requirements of a minimum health program. Many individuals and groups stand ready to help you.

An inadequate health program for workers lays a heavy burden on industry, much greater than most tax burdens.

Since time is short, I will attempt to enumerate the values derived from a health program.

1. Decrease in compensation and insurance costs.
2. Decrease in production costs — continuity of production.
3. Decrease in absenteeism — no gaps in production schedules.
4. Decrease in labor turnover.
5. Increase in production rates — smoother operation.
6. Less labor trouble.
7. Better employee-employer relationship. Employees happy to continue work for such an employer and the employer is proud to have provided his workers with the best possible working environment.
8. Good will of the community.

PROBLEMS IN EMPLOYING THE PHYSICALLY HANDICAPPED

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I've been invited to speak to you tonight on the problems involved in employing physical handicaps — and I can't think of a subject I'd rather talk upon, especially at this time.

We all know that World War II, as no war before it in history, is a battle of manpowers. We also know that to have 9,000,000 men in our armed forces by the end of 1943, we must have 62,500,000 men and women in vital industry at home. And with only 55,000,000 employed in our country today — 4,000,000 of whom will be drawn off for the armed services — we know we are facing a manpower shortage of 11,500,000 unless something radical is done to change the picture. We must draw into industry the still untapped, or inadequately tapped, resources of available manpower in the women who as yet are not employed; the older men who were scrapped during the depression; the Negroes; and the subject of my consideration tonight — the so-called handicapped, who from a vocational point of view are frequently not handicapped at all, if only the slightly extra effort required is spent in choosing their proper placement.

That is the only real difference between hiring a handicapped worker and hiring a so-called normal worker. A little more time, and sometimes a little more imagination, must be expended during the initial interviews to make

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sure that the work involved is within both the physical and mental scope of the handicapped. And later during the early days on the job, a little more supervision is sometimes necessary to guard against over-zealous effort, and to make sure that minor remedial inconveniences — such as a non-swivel chair for a man with a heavy brace, when a swivel chair would facilitate his rising and getting seated — do not hamper his efficiency, for the average handicap would die rather than draw attention to his disability by seeking the correction of such an inconvenience himself.

Such things really are trivalities, but they can spell the difference between success or failure for the handicap. I know you will have difficulty in believing me when I say — speaking both as a surgeon and as an employer myself — that the greatest handicap the cripple faces in making good in today's economic world, is the handicap that years of prejudice has put in the minds of employers and fellow workers.

Don't misunderstand me, please. This prejudice is a perfectly normal thing. For untold centuries the cripple has been the butt of the universe, a creature shunned because of his malformation, believed to be the result of his own personal evil, or of that of his ancestors. The Sanscrit word for cripple meant "the evil one incarnate" and this idea has persisted down through the ages, to the degradation of the cripple himself, and of humanity in general.

Here and there through the years, voices have been raised in his behalf. A slight departure from his usual tragic role of the abused and the degraded, came during the Middle Ages when the cripple was made a court jester or a buffoon for the amusement of the thoughtless, and parents were even guilty of maiming their children to supply this demand.

But the real amelioration of the cripple, which has become the scientific rehabilitation of today, began after the machines of modern living — the automobile, the power press, the travelling crane, the conveyor belts, the truck, the railroads, etc. — had produced cripples in such ever-increasing numbers that a healthy national economy demanded that as many as possible be returned to self-support. The labor unions took the initiative in this movement to improve the lot of the cripple by public statute. World War I with its aftermath of veteran cripples gave new impetus to the cause. Meanwhile the techniques of surgery and medicine were providing the means for restoration of physical function to the bodies of the crippled to a degree undreamed of a few years previous.

This combination of circumstances led to the passage of the first rehabilitation law in the country — that of New Jersey in 1919. By means of surgery — and particularly bone-graft surgery, by which healthy bone — usually from the tibia — is used to supplement or replace weakened or destroyed bone elsewhere — we were able to repair the body of the cripple to such an extent that often, in the cases of adults, he could return to his pre-injury job. In other cases, where vocational reeducation was indicated, we provided the best available type of training suited to his particular needs and abilities, and then waited for the employers of the State to do the rest — not without constant solicitation on our part, and with all the case histories and publicity which we could bring to bear.

A veteran who had lost the power of speech but could still draw was hired as a mechanical draftsman at $250 a month. We told the world about it. A chap who had lost both legs, became an automobile salesman, and later assistant to the president of a great automobile company. A yard laborer who lost a leg was upgraded into a commercial artist. A girl with infantile paralysis traded her wheel chair for a job as occupational therapist. Another became a psychologist. A boy who had lost an arm hopping freights became a fine cabinet maker.

Despite all kinds of human interest stories to prove our point the prejudice in the mind of the employer lingered. and in many cases the very employer whose tax-money had been used to train the handicap, refused to give that handicap even a trial when it came time for finding a job.

We who have been in rehabilitation work for years know the type of question the employer has in the back of his mind when he is asked to consider a cripple for an available opening. Actually the approach is much more tactful than that. The employer is asked to consider an applicant with certain qualifications — but with a certain disability.

However the question in the employer's mind remains the same: "Why should I hire half a man, if I can hire a whole man?" This, of course, is not as true today as yesterday, but the faulty thinking involved is still current. From an economic point of view, the employer should never hire half a man if he can get a whole man. The question is: What is a whole man?

Edison by present physical employment standards was not a "whole man." It would be fatuous to ask how many of you would hire him today, if given the chance. Suppose General Electric had discriminated against young Steinmetz because of his twisted spine?

Every one of us is a vocational cripple to some degree. Look at the man sitting next to you. Could you fill his job? Could he fill yours? In a primitive society where brawn is the only criterion of ability, many of us would be adequate for all kinds of work. But in today's complex industrial world, there isn't a person alive who could fill every and all jobs. So to that extent we are all vocationally handicapped. It is merely a matter of perspective. Think of that the next time you are approached on behalf of a cripple.

A cripple who has been trained for a job is bringing not a half-man's work, but a whole-man's work to that particular job. Throughout the country, in every State, there are now rehabilitation departments, bureaus, or other agencies, whose main responsibility is to see that the cripple is prepared to fill some job in modern industry — not just any job, but a job for which his particular abilities, education and background fit him in as close to a tailor-made fashion as modern medicine, psychology and pedagogy can produce.

In addition, the cripple brings to a job a rare kind of loyalty — he appreciates being given a chance to prove he is not a social liability, but a self-respecting member of his community. He has a type of patience practically unknown among the able-bodied. If you had seen the years of pain and agony some of the rehabilitated cripples have endured that they might not spend their lives in bed or a wheel-chair, you would realize that the good old-fashioned guts required to rise above such suffering, gives the cripple a *plus* that makes his hiring one of the wisest personnel moves some employers ever make.

Henry Ford has thousands of handicaps working for him, that in itself is eloquent testimony of their efficiency. One of the happiest experiences in rehabilitation is to pick up the phone and to find an employer on the other end asking for more of the same kind of handicaps as he has just hired. More deaf-mutes, for instance, to help make paper cups in a job requiring concentration; more jewelry apprentices with a good pair of hands, normal eyesight and average intelligence — what matters it if the legs are crippled by infantile, as they were in the case of one boy who today is a clever young jeweler.

In the interests of spreading the gospel of "not what is gone, but what is left" as the important consideration in the hiring of the handicap, we even produced a movie called "opportunities." This depicted exactly what happens when a workman loses an arm, for instance, and must be retrained for a completely new kind of work after he has recovered from his injury and been fitted with an artificial arm.

This won us a few employer converts, but not enough. Deep rooted prejudices die slowly. When we would cite some of our more outstanding cases — a home-bound wheel-chair case who became one of the leading young accountants of the state, or another similarly afflicted victim of infantile who rose to a professorship in engineering at Rutgers University, the employers were interested, but unconvinced. They insisted we were picking our cases. What happened in the case of the ordinary employee, and not just one employee, but a representative group of employees?

In 1929, J. W. Dietz of the Western Electric Company, who was also assistant director of the New Jersey Rehabilitation Commission, got his company to agree to an experiment which would serve to answer this question in terms no employer could misunderstand or misconstrue. For one year from August 8, 1929 to August 8, 1930, the physical requirements of the Western Electric Company at Kearny, New Jersey, were relaxed, and 652 vocational handicaps were employed — 482 males and 170 females — to work

side by side and in direct competition with the so-called able-bodied workers. Almost 50% of the handicaps hired had defective vision, 16% suffered from hernia, 19% had a deformity or had lost an arm, hand, leg or a foot. The rest had such things as varicose veins, the loss of an organ as the result of surgery, and similar physical faults which many of you wouldn't consider handicaps at all, but which your medical departments would rule against. The work of the handicapped group was matched against that of the normal workers, with the following results:

It was found that 7.9% more normal workers resigned than did physical handicaps. (This showed the greater stability of the handicapped worker.) Because this was during the depression, layoffs were in order, but only 2.6% less normal workers were laid off due to lack of work than handicaps. (And handicaps were according to the rules not to be given preference.) About 7½% more normal persons were relieved because they were not suited to the type of work, and 7% more normal persons were absent during the year than those who were handicapped.

And here's a figure to interest employers: 5.6% more normal cases had accidents than did the handicaps.

The handicaps had more absences on account of personal business, marriage, funerals, etc. than the normal employees, but this is understandable, since in many cases treatments of one kind or another must be continued over a period of years. However, the employer is always appraised of this in advance of employment and allowance made for such absences.

The handicaps showed a higher average of increase in weekly earnings than the normals — 4.6% as against 4%; but the hourly-rated handicaps were a little under the normals — 8% as against 9.9%.

The verdict on production was a little more difficult to estimate since the cases were spread over many types of work, some of which were impossible to measure in terms of comparative success. However, the general conclusion reached was that in many cases the handicapped were equal to the best in their departments, and in some cases they were especially outstanding. And at the end of the trial period, 307 of the original handicaps were still employed, as against 287 normals. (The unusually large turnover was due to the reduction in the number of short service employees made necessary because of the depression.)

As a result of this experiment, the Western Electric Company concluded: ". . .there is no real reason why people possessing certain vocational defects should not be employed by large industrial concerns. The results of our year's experience with the vocationally handicapped workers were sufficiently satisfactory to make their acceptance a part of the standard practice of our Medical Department.

"Likewise, as a result of our experience gained in working with the vocationally handicapped employees, significant changes took place in our thinking regarding other phases of our rehabilitation problem.

"It occurred to us that we had not exercised the same care in providing an adequate placement and follow-up routine for employees who were impaired with sickness or injury while in the employ of the company. An investigation of some 15,000 Benefit records revealed that 155 of our employees had sustained handicaps or limitations while in the service of the Company. These 155 cases were immediately investigated to determine the suitability of their work. The ever-present danger of an aggravation of an earlier condition, brought about by placement on poorly adapted work, was strongly indicated by two of these cases. Recurrence of a hernia, induced in each case by work obviously unsuited to the worker's condition, was a source of expense more than adequate to maintain a general follow-up of these handicapped workers for a five-year period."

The danger of a second accident with its risk of "total disability" is another hurdle to the hiring of the handicap in some states. In New Jersey we have overcome this by creation of a so-called 1% fund, into which all insurance carriers pay 1% of all monies paid out by them in the previous year for compensation, and from which payment is made to the injured, at the expiration of the second accident payment period, when considered as a single compensable accident. For example, if a man loses an eye working for Company A, then loses the second eye while working for Company B, neither company can

be held responsible for his total disability. Company A paid compensation for the first eye. Company B pays compensation for the second eye. But the victim by the loss of both eyes is entitled to "total disability," and under the compensation laws must be paid by someone. In New Jersey, it is the state, who assumes the burden of the payments at the expiration of Company B's period of liability for a single eye, and the source of these payments is the 1% fund. By this method it is believed the burden of total disability is distributed most equably, and the re-hiring of handicaps is facilitated.

In states not possessing some such "second accident" protection for the employer, strict observance of the safety laws will go a long way toward removing this risk.

The national Fair Labor Standards Act, affecting firms engaged in inter-state commerce, specifies that aged and handicapped employees may be hired at less — but not more than 25% less — than the minimum way paid the normal worker (25c per hour for a maximum of 44 hours, to be increased each year until 40c per hour for 40 hours per week is reached), but only after approval by the Wage-Hours Division of the Department of Labor in Washington; and no establishment may employ a number of such workers in excess of 5% of their total personnel.

Some employers in the past have found their humanitarian instincts weakening when it came to filling out the necessary forms and forwarding them to Washington. However, after all the form-filling practice business is getting these days, an extra form or two to hire a much-needed employee is practically *nothing*.

Prior to scientific rehabilitation days, many well-meaning individuals tried to place handicaps on the basis of sympathy — not ability, and thereby did the cause of the cripple a real disservice. For the cripple doesn't want pity or sympathy — he just wants a chance to prove himself on a job — to prove that he is really of some value in the world.

When a company, as recently happened in New Jersey, discovers that blind workers can sort mica more than twice as fast as sighted workers, even aided by machines, then something wonderful happens to the self-esteem of the blind workers, and perhaps for the first time in his individual life, he feels a surge of deep joy — a feeling that life really needs him after all.

That's one thing this current manpower shortage and World War II is teaching all of us — we all have a place in this life, not only for our own happiness, but for the happiness and security of those around us.

Most physical handicaps who are adults have long ago given up the dream of really finding the world needing them — welcoming them with open arms. They have been rebuffed so often. To reinstate that dream, to give them back the belief that after all their birth was not a mistake, is to have a part in one of the most satisfying of human efforts, as well as at the moment, a vital share in protecting our national security.

The lame, the blind, the halt, the deaf, the spastic — all have undreamed of potentials. To deprive them of their chance to help win our war, is not only cruel to them, but might prove nationally tragic. Nothing would please the average cripple more than the chance to risk his life for his country, to feel that particular form of equality with his able-bodied brother. Modern war is such that this sacrifice is denied him, but total war, which includes the home front, is giving him a chance to approximate it when he is used at his fullest war-time ability.

Not alone humanity demands that we recognize this fact. National security demands it. And as so many employers are discovering to their complete surprise, their own company's prosperity and best interests also demand it.

The time to hire the nation's cripples is not tomorrow, but today. This vast reservoir of manpower is ready and waiting. Tomorrow, if we do our job today, the boys from the Solomons, New Guinea, and North Africa will be coming home for good. Yes, there will be cripples — many of them — among them. Let us not disgrace their magnificent record by refusing to scrap our prejudices. Let us pave the way for their return into industry by adjusting our thinking and our hiring to absorb the handicap as naturally and as graciously as we absorb the able-bodied. In theory, this is the American way. Let us make it a fact.

DISCUSSION

Dr. Joseph H. Chivers, Chicago. — Dr. Albee very forcefully presented the problem of the handicapped workmen in relation to employment and by citing numerous instances, he showed clearly that a small amount of individual consideration easily bridges over the difference between the handicapped worker and the employment of a so-called "normal workman." His statement that the greatest handicap that the cripple faces is the handicap that years of prejudice has put in the minds of employers and fellow workers stands as an indictment against our present civilization.

I am sure that the outstanding cases cited by Dr. Albee are but a few of the examples that should convince employers that the handicapped worker has many other attributes which in the problem of industrial relations more than compensates for his physical infirmity. The interest shown by the New Jersey Rehabilitation Commission and the accomplishments of this Board should stand out as an excellent example for similar work in other states.

Yesterday, we heard Dr. James H. Biram of Hartford, Conn. discuss the recent developments in rehabilitation among the handicapped workers of that state. From Dr. Biram's remarks it was very apparent that a great deal was being accomplished in Connecticut through a co-operative effort by the state medical society, the manufacturers association of Connecticut and the state rehabilitation commission.

For the past 18 months American industry has been confronted with the need of tapping every possible source of manpower for war production. Inflexible employment standards on age, physical fitness and experience have long been dropped and management has been forced to consider the employment of women, the aged and that 4 to 6 per cent of handicapped persons who did not come up to the physical standards formerly required by pre-employment examinations. As a war measure many industries have now adopted definite policies of hiring for the job and fitting the pre-employment examination and standards of physical fitness to specified types of employment. Anyone who can produce will now be considered for employment.

The types of permanent disability that industry in the past has been hesitant to employ were those persons afflicted with disablement which progressively became worse with age, irrespective of whether or not they were employed. However, in too many instances when such persons were employed the increased disability was attributed to the nature of the employment. Likewise injury arising from impaired function that was in no way related to the employment was held as a total responsibility of the employer. Frequently impaired vision, deafness, heart disease, varicose veins, quiescent tuberculosis and various degrees of orthopedic handicap such as those resulting from infantile paralysis and osteomyelitis was the major cause of disablement for which the employer was asked to assume responsibility. When applicants were chosen for employment, industry naturally preferred the average employee who it was hoped would work at uninterrupted full capacity until his retirement age at 65. Management was willing to assume the care of those crippled in industry through their employment but they were not inclined to take on any potential liabilities. After all, industry is fundamentally in business to make money.

A recent survey indicates that there are approximately 133,000 blind persons in the U. S. and upward of 425,000 blind in one eye. There are 3,700,000 suffering from cardio-vascular diseases, 680,000 with a quiescent tuberculosis, while 2,500,000 persons in the U. S. are afflicted with orthopedic handicaps.

Within the past 2 months the National Association of Manufacturers made an extensive inquiry to learn what the war plants in this country are doing to make use of physically handicapped persons and whether they are doing anything to restore present and prospective workers to better health so that they can take their places in the nation's assembly lines. The results of this inquiry indicates that employers are definitely interested and willing to cooperate in the rehabilitation of this mass of potential manpower but there are perplexities and uncertainties that impede any real movement along this line. Frequently compensation laws, insurance restrictions, seniority rights, wage and hour provisions and personnel problems prevent an employer in hiring handicapped workers.

In two states, six companies mentioned that they have definite policies of co-operation with the state rehabilitation agencies for placement of handicapped workers. A few firms stated that they have offered co-operation with the local medical and hospital service to enable the applicant to fit himself for appropriate work. Considerable placement of this type has been done by the Industrial Commission of the state of Pennsylvania, but on the whole there is a lack of concerted action and clear purpose in meeting this problem. Apparently there are numerous legal and personnel problems which need clarification before any active co-operation between employers, medical fraternities and our state industrial commissions can work out a pattern for the placement of these handicapped workmen.

In an effort to clarify some of the problems confronting the employment of the handicapped worker in the state of Illinois, we have asked each member of the panel to present his viewpoint.

THE EMPLOYER'S VIEWPOINT.

George P. Wardley, Chicago, Manager, Industrial Relations Carnegie-Illinois Steel Company.

THE INDUSTRIAL COMMISSION'S ATTITUDE.

Alfred J. Borah, Chicago, Illinois Industrial Commission.

MEDICO-LEGAL ASPECTS.

Frank R. Peregrine, Attorney, Chicago.

I should like to call attention to the fact that as a result of this war we all will need to participate in a program of rehabilitation for many of the soldiers who will return from service. This program must be more than surgical and medical treatment and itation of the crippled service man so that he can assume his just share in economic self-sufficiency.

Discussion of Dr. Albee's Paper Continued —

EMPLOYING THE PHYSICALLY HANDICAPPED FROM THE EMPLOYER'S VIEWPOINT

Mr. George P. Wardly
CHICAGO

The problem of employing the physically handicapped can be discussed from many angles. In approaching this problem it might be considered much more appropriately by referring to three distinct classifications of handicapped persons:

1. Employees who, through medical examinations provided by the company, are found to be physically handicapped.
2. Employees physically handicapped as the result of accidents within the plant.
3. The physically handicapped who are seeking initial employment with the company.

Industry may be open to some criticism in its lack of development of more extensive measures in rehabilitating the physically handicapped; however, we should not be too hypercritical in our first analysis, since industry has effected some programs that are quite commendable.

Let us consider first the individuals who, through the medium of physical examinations provided by the company, are found to be physically handicapped. Many individuals in this group have been unaware of their physical defects. The company examination apprises these people in many instances of their condition in time to prevent much greater damage and lessen the degree of disability. The conditions disclosed in these examinations are usually corrected within a comparatively short period of time. In some cases, it is necessary to place employees on occupations other than their own, until the condition improves. In this particular group we consider it important to emphasize the use of practical tests in addition to the physical findings of the medical staff. Under one method of procedure, the medical staff, on determining the condition which makes it unsafe or inadvisable for an employee to continue on his present occupation, forwards to the Industrial Relations Department a recommendation that the employee should be placed on another occupation. In making this recommendation, the medical staff acquaints Industrial Relations with the employee's physical limitations. The Industrial Relations organization, therefore, in cooperation with departmental supervisors, makes every effort to place the employee on a job which will permit him to continue work with a minimum loss of earnings. Let us review a few actual cases to industry must bear a large share in the moral rehabilemphasize the importance of thorough follow-up in the use of practical tests under actual working conditions.

CASE 1

An overhead crane operator, an occupation on which frequent physical examinations are provided, was found to have a serious defect in vision, namely, a complete lack of depth perception. Naturally, the medical staff (following its findings) recommended that the employee be removed from the occupation of overhead crane operator. Since the employee in question had several years of satisfactory service, it was considered advisable to investigate thoroughly before placing him in an occupation which would result in some loss of earnings. A check of supervisors and ground crews who worked with this craneman revealed that he was considered one of the safest and most efficient operators in the organization. The medical staff thereupon gave this individual additional tests which disclosed that, although the craneman had been unaware of his handicapped vision, he had developed the habit of moving his head from side to side to get a better view of the operation. It was agreed that he could perform his work safely and he was allowed to continue on his regular occupation.

There have been a number of similar cases and it may be desirable to review just one more.

CASE 2

An employee working as a switchman for locomotive cranes was found to have limited hearing. The medical staff recommended therefore that he should be placed on another type of job. Again it was decided to conduct practical tests. Under actual working conditions, this employee readily heard whistle signals, shouted warnings, and verbal instructions on operations. Despite the physical findings, there apparently was no reason why this employee could not safely perform the work of a switchman, and he was allowed to continue on the occupation. Thus it has been found advisable to develop all possibilities regarding placement of employees who are found to be physically handicapped.

Industry has a direct responsibility for the second group of those physically handicapped as a result of accidents within the plant. Regardless of what caused the accident, let us assume that industry shall accept the responsibility for all accidents which occur as the result of its operations. In the not too far distant past, it was general practice to place employees handicapped as a result of industrial accidents on occupations such as watchman, flagman, janitor, and similar occupations. These employees were given these light jobs, and paid a wage rate for the position which was usually lower than the rate paid in the position previously held.

Today, the physically handicapped cannot be assigned to this type of work. Some individuals in this group have been trained to do work of a nature which will pay a rate comparable to that earned previous to injury and also provide for advancement. We believe that this training should be extended, thereby opening new fields of endeavor for industrially injured individuals.

The third group possibly poses the greatest problem. The individuals in this group present themselves for employment at a company that has no direct responsibility for their handicapped condition. The responsibility assumed by the management of a company in such cases is one of a moral, or community character. Naturally, the condition of the labor market has greatly affected the employment of these individuals. In the past when a great number of people have been available for employment, a high physical standard has been maintained as a prerequisite to employment. If there are few candidates for employment, the physical standards, as a requirement for qualification, may be lowered by degrees to meet conditions.

One organization recently developed a plan for rehabilitating employees who have been physically handicapped as a result of accident or illness. This organization, on many occasions, was confronted by problems as a result of employees being physically handicapped because of an injury or sickness. The question of returning such employees to work was often controversial and delay was frequently encountered in arriving at satisfactory decisions. To expedite the handling of these cases and to arrive at decisions which would be satisfactory to all plant representatives concerned, a plant committee was appointed to make recommendations in each case.

A method of procedure was established for the handling of cases which was either a direct or possibly a social responsibility of the plant. The committee, known as the Plant Employee Rehabilitation Committee, is composed of the Assistant General Superintendent as Chairman, seven division heads, the Superintendent of Industrial Relations and the plant Chief Surgeon. It was agreed that the committee would meet only when specific cases were to be discussed; but not more frequently than once in each two-week period. Procedure provided that each case handled by the committee would be decided by five members and the plant Chief Surgeon. The employees handling and deciding each case are the Division Superintendent of the employee involved, the Superintendent of Industrial Relations, two members of the committee selected by the Chairman, and the Chairman, who casts the deciding vote if necessary. In all cases, the plant Chief Surgeon recites the case history and the employee's limitations.

The initial effort usually will be to determine the possibility of returning the employee to work in his own division, with the understanding that each division will make every effort to cooperate. If the committee finds this inadvisable, they then consider the possibility of assignment to another division. The division superintendent concerned with the occupation selected then becomes a member of the committee and votes in the findings.

We in industry now regard it as not only advantageous but as one of Industry's added contributions to society to establish similar methods for the purpose of employing, so war as is possible and proper, all individuals physically handicapped, regardless of cause or responsibility for the handicapped condition. This procedure will no doubt make it possible for many physically handicapped persons to be gainfully employed, to the best interests of both individual and industry.



THE EFFECT OF THE WAR ON THE MATERNAL WELFARE PROGRAM IN ILLINOIS

FREDERICK H. FALLS, M.S., M.D., F.A.C.S.
CHICAGO

The reduction in maternal mortality in Illinois that has occured in the last ten years as a result, in part at least, of the steady pressure by the members of this Society against the factors which in the past have been responsible for the great majority of maternal deaths has been most gratifying. The rate per 10,000 live births has dropped from approximately 7 to 2.9 putting Illinois in an enviable position among the great states of the Union with comparable populations.

This accomplishment represents the united efforts of many men and women working largely without remuneration, and motivated chiefly by a desire to do a service for their fellow men and uphold the best traditions of our profession.

As we look into the immediate future however, the outlook is anything but rosy for a continuance of our progress, or even to hold the hard won gains that we have been able to make thus far. The military program calls for the induction into the army of 25,000 physicians by December 1st* Since there are approximately 11,000 physicians in the army now and the interns graduating next July 1st will supply approximately 3,500 additional officers for the Medical Corps, it is evident that the additional 10,500 medical men will have to come from the medical practitioners now serving the civil population.† Furthermore, this group of men will represent the younger, more active members of our profession to whom in the ordinary course of events the arduous work of handling the obstetrical cases would naturally fall. As a result of this outlook it is necessary for those of us who will probably be left in civil practice to organize the medical resources of the state to the end that the greatest possible efficiency be instituted in the various localities in the state to render the best service possible under the handicaps which are and will be imposed upon us.

As is well known, this Society several years ago at my request appointed a Maternal Welfare Committee which has a representative in each Councilor District and each Councilor District Chairman has sub-chairman in each county of the state whose duty it has been to study the local needs of the community as far as maternal welfare is concerned. Many of the counties have active committees composed of doctors, nurses and lay organizations which are doing good work in carrying out the maternal welfare program in their community.

It is those groups who should take the lead in any program which they or other groups may initiate. Under the leadership of Dr. T. B. Williamson, Chairman of the Maternal Welfare Committee, the groundwork has already been laid with the profession and with lay groups who only need a concrete program to begin any new worthwhile project that may be proposed.

The needs of various communities vary greatly and a program that is quite workable in one locality with a certain type of inhabitant may not be nearly so efficient when applied to another group with a different set of conditions. However, the fundamental factors are common to most communities. No matter what changes occur, in all communities it will still be necessary to provide adequate prenatal care. In general, this may be summarized by stating that a patient should be seen once a month in the first seven months of her pregnancy, and at least every two weeks thereafter. Some scheme should be devised to deliver this service to the patients while taking a minimum of time from the busy practitioner except in cases where complications require more extensive personal supervision of the case by the doctor in charge. It may therefore be necessary for the men in a given locality who were doing obstetrics to agree to collaborate in the handling of pregnant women under their care, and by concentration of the work to minimize the effort necessary to good prenatal care.

The average prenatal visit should consist of an analysis of complaints of patient, urine analysis, weighing, blood pressure and physical examination. The later procedure must be carried out by a medical man. Conceivably a patient would

*Probably about 40,000 actually in service on Dec. 1, 1942.

†These figures are estimates as of May 1, 1942.

From The Department of Obstetrics and Gynecology, University of Illinois College of Medicine.

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not be seriously neglected if she were examined thoroughly at her first visit at the doctor's office and sent to the hospital for her subsequent prenatal visits where she could be observed by nurses until the 28th week, unless some emergency developed or some symptoms appeared that aroused the nurses suspicion that everything was not normal, in which event the patient's doctor would be notified at once.

After viability of the baby the cases should be seen by a medical man every two weeks and examined externally at each visit, and rectally where necessary. This could be done by the local doctors taking charge of the prenatal work in rotation at the hospital in properly equipped examining rooms in connection with other duties at the institution. Any abnormality discovered would be referred immediately to the doctor handling the case.

Indigent community charges could also best be handled prenatally through local hospital services, at least as far as prenatal care and possibly also as far as delivery care is concerned.

I assume that it is axiomatic that hospitalization of obstetrical cases permits of more deliveries by fewer doctors and nurses than any other form of care. It should be our aim therefore to encourage as far as possible the entry of obstetrical cases to hospital services. In many communities as many as 80 to 90 per cent of the babies are born in hospitals which shows that the layity are ready to accept our advice in those matters when proper facilities are available.

It may easily be that as a prelude to this that we may have to convince the hospitals that obstetrical cases are desirable from the standpoint of hospital management. This should be easy to do in most cases. In addition to the care of the patient, it will be necessary for the hospital to provide adequate sleeping accommodations for men on call or who have patients that will be delivered during the night.

The problem of providing sufficient hospital beds in a given community for the increased demand of such service could be met, if necessary, by shortening the stay of patients in the hospital to a few days where facilities for home care are adequate, and where hard roads make the trip from the hospital safe and not too tiring. Special provision for warm transportation of the baby would be necessary. As a correlary to this proposition it would be necessary to provide for post natal supervision of the obstetrical cases by doctors or nurses or even experienced lay persons where necessary.

In order to conserve the nights rest of the local practitioners it may be necessary that an agreement be reached whereby one of the men doing obstetrics will be at the hospital and on call to meet any obstetrical emergency that may come up between the hours of midnight and 6 A. M. Special arrangements could be made between the men in a community who are doing obstetrics to assist in operative deliveries and in giving anesthetics, and consulting in complicated cases. This would be very desirable if it could be brought about.

Anesthesia in obstetrical cases may have to be limited to simple drop ether administered by unskilled nurse anesthetists under direction of the obstetrician. In this connection the use of local anesthetics which I pointed out in my article on "The Use of Anesthesia in Obstetrics with Special Reference to the Use of Local Anesthesia" will come into its own and once used will, I am sure, in many cases practically supercede general anesthesia for all but the most difficult operative cases. Obviously in all but a few hospitals it will be impossible to supply the personnel necessary to the safe conduct of obstetrical care under twilight sleep and its various modifications. There will in all probability not be sufficient nursing help to make this safely possible, and attempts to carry out the technique without sufficient help will lead to disaster. It will be much safer to eliminate this form of anesthesia entirely for the present.

The indigent and low income groups could be taken care of at community expense by the doctors on duty in rotation at the hospital, thus conserving time for the doctors and insuring better care for the patient and at less cost to the community.

A major problem will have to be solved as regards the nursing care of obstetrical patients. This however can be solved in various ways more or less satisfactorily. If the nurses that are left in the community are permitted to devote their energies to that portion of their duties that require special knowledge and technical skill, and if they be permitted to relegate more of the routine work of the hospital to nurses assistants

and maids a great step forward in hospital efficiency will have been taken. It is here that the help of interested intelligent women of a community may be enlisted. They know where the woman power of a community lies, and who can and who cannot be relied upon for conscientious and efficient work. Furthermore, their aid in enlisting the interest and support of other women is invaluable. Especially I would urge the women who have had nurses training, and who have for various reasons given up the active work to unite to form an auxiliary unit for emergency service in the community along the lines of maternal welfare.

Another group who might well be interested in such work are young women just out of college or high school who have an inclination to enter the nursing profession. These women could do a great service to the community by assisting in nursing duties in the hospitals for varying periods of time much as a probationer does in normal times. At the same time they could be obtaining sufficient insight and experience into the problems of nursing to determine whether or not they wished to make nursing their life work.

By carrying out these plans not only would the patients in the hospitals receive better care with a smaller professional personnel, but also, and a factor of primary importance, the whole problem of lay education along obstetrical lines would receive a forward impetus throughout the state which would be of the greatest significance and value.

In connection with the establishment of new private and government projects in areas where the accommodations for the absorption of the personnel of the industry into local communities with inadequate facilities, the obstetrical problems raised by housing conditions in trailer camps, boarding houses, and tourist cabins are very real and often difficult of solution. It is bad enough for normal cases to be housed and delivered under these conditions, but unspeakably cruel to permit women with complicated cases to go through a difficult labor like animals.

These conditions are not facts that may have to be faced some time in the indefinite future. They are here right now, and it is incumbent upon us to face the facts and accept the leadership and responsibility in working out the best solution of the problems presented.

It would seem that in each community where such problems exist that the maternal welfare committee of that district study the problem from all angles. An information service could be provided at the industrial plants where men and women employees could receive directions for obtaining obstetrical service. Patients applying at the local hospitals could be assigned in rotation to the men who were carrying the burden of caring for the indigent cases of the community. In turn these men would be held responsible for the occasional emergency call involved in the management of these cases.

Public Health nurses in these communities might well be used to augment the local personnel in caring for these emergency cases. Local hospitals could keep obstetrical bags set up to be taken or sent out to a home for use by a doctor or public health nurse in an emergency. Public health incubators can be strategically located for use in the home or hospital. A number of these are already available through the Health Department.

The above mentioned provisions could be under taken and carried out without additional expense, simply by proper organization of the facilities at hand. However, this may not be enough to carry on the program to its greatest usefulness to the people of the state. Money may be necessary to implement certain phases of the program not otherwise provided for. Since there is a budget of nearly $200,000 each year appropriated by the state and Federal government for a program of maternal and child health, and since this is administered through the State Department of Public Health, it would seem that much of this money could be best used in helping the situations that will arise as a result of war conditions, many of which we can only dimly visualize at the present time. All of this money belongs to the people of Illinois and should be put to work where it will do the most good at this time.

The care of the wife and baby of the man who has left for service with the armed forces is an especially important obligation of the state. Nothing that could be done for such a man would do more to bolster his morale and increase his efficiency than to know that the best medical service possible to provide under the circumstances will be available to his family, as a re-

sult of intelligent planning by the people whose life and liberty he is called upon to defend. Such men should not have to worry about anything except their jobs as soldiers. It is a small return for their sacrifice in time, money and blood for us to see to it that they realize that the community in which they live appreciates their efforts and stands ready in a concrete way to demonstrate its interest by insuring, even at considerable personal sacrifice, adequate care and protection for their wives and babies.

SUMMARY

The physicians left in civil practice should organize the resources of their communities for the most efficient maternal care possible with the facilities available. Cooperative endeavor will solve many of the problems which will arise.

The nurses available will have to be relieved of many routine duties in order to carry on more of the specialized duties in institutions. Their ranks will have to be supported by recruits from postgraduate nurses and from women who are contemplating entering nursing training. Women who are eligible to enter nursing training should be encouraged to do so.

The aid of lay womens organizations must be enlisted to supply information and make recommendations for the furtherance of these plans.

The leadership in such a compaign must come from the organized medical profession, and the mechanism has already been set up by the preceeding work of the State Medical Society Maternal Welfare Committee.

The local maternal welfare committees have been more or less efficient depending on the enthusiasm and initiative of the county committee chairman, many of whom are present today. One of the factors militating against the success of the maternal welfare program in past years has been the failure of the local chairmen to appreciate just what was expected of them in the way of a program, and also it was not clear that there was a real necessity for many of the proposals advanced by the state committee.

I assume that the facts set forth in the preceeding paragraphs cannot be successfully contradicted, and that the proposals are at least worthy of some consideration, and may be used as a point of departure at least in working out to the benefit of all concerned, the complicated problems facing us in the next few months.

We are in the fight to a finish. No stone should be left unturned that will in any way contribute to the winning of the war. Maternal welfare and national welfare are synonymous. Those who are not with us are against us.

DISCUSSION

T. B. Williamson, M. D., Mt. Vernon, Illinois. Broadening and extending official health services to include bedside nursing, nursing services for home deliveries and service for medical and nursing care for certain groups of childen such as premature infants are a fundamental part of our democracy.

This program is strongly supported because through such service the infant mortality rate in the last quarter of a century has been reduced by more than fifty per cent and the neonatal mortality rate has been reduced by one-third.

The death rate for infants who die during the first year of life also has been greatly reduced to 47 per 1000 in 1940 national rate which clearly indicates the importance of the maternal welfare program.

As in any other projects, however, war steps in and produces results which must be taken into consideration, and which retrogressive as it may be, tends to place limitations on this magnificent service. At least, war calls for some changes in the pattern of the maternal welfare program in Ilinois as well as in other states.

The psychological explanation of the increase in the birth rate in war time is not necessary for this discussion. The fact is that war jumps the birth rate, which further complicates the problem. The birth rate of about two and one-quarter million in 1939 went up to more than two and one-half million in 1941.

The problem in Illinois is that an expansion of the maternal welfare program is called for by the increasing birth rate. In fact, more doctors and more nurses are called for, but the doctors are also called for in war service and so are the nurses. It is also a fact that an expansion of the program calls for funds to provide for it, while the increased cost of the war demands that funds be devoted to war purposes. But in Illinois there is absolute necessity of an increase in the maternal welfare program if the limited resources available to provide the services are to meet the demand.

Illinois is faced with the problem of one-third of its physicians going into war service. Even before the war demand, the number was hardly sufficient to meet the needs for their services in the maternal welfare program.

As early as 1936 in Illinois it was realized that adequate medical and public health nursing supervision, started in early pregnancy, would increase the probability of safe delivery for the mother and of health for the baby. The prenatal clinic or conference conducted by a physician, supplemented by the educational services of the public health nurse in conference, in

home visits and in group instruction is the type of service which was recognized as necessary for women unable to obtain this prenatal care otherwise.

But a survey, as of June 30, 1939, showed that prenatal clinic service was available under State Health Department supervision in only seventeen per cent of the rural counties and in about 28 per cent of the urban counties. Of course, prenatal clinics are being held under municipal or voluntary auspices in the cities.

An effort to encourage mothers to go to the offices of private physicians for prenatal service is now being made. But experience has taught that the service in the physician's office is not always correlated with field public health nursing service. The trend has been toward prenatal clinics to be held once a month or even oftener at centers accessible to the women of a district or of a local area. This could be over come by better prenatal services in the offices of the physicians.

Prenatal supervision by physicians, aided by public health nurses assures the health of most women in their approach to a normal delivery. It also enables the physician to discover complications that indicate the probability of a difficult delivery and the need of hospital care at the time.

An adequate diet during pregnancy and lactation helps to protect the mother against certain complications of pregnancy and increases her chances of producing and rearing a healthy baby with a minimum drain on her own body. Instruction in the choice of food and other factors related to good nutrition is therefore an integral part of prenatal service.

In this state it has been necessary for physicians and nurses who instruct mothers in diet to take into consideration racial or regional food customs and the food available in the homes of the community. It is often possible for a consultant on nutritional problems to attend a prenatal clinic or conference to demonstrate effective methods of instruction on nutrition.

In other words, there are more or less delicate problems which may be handled properly only by the physician and public health nurse. Physicians, who haven't previously conducted clinics, are given professional assistance by the Bureau of Maternal and Child Health in starting and establishing a clinic routine. The obstetrician on the staff of the Bureau visits the clinics regularly to give assistance and consultation service through the clinic to the physician in charge and to invited physicians in each area.

This all points to the absolute necessity of the continuance of this service which is so important to mothers and children.

It is recognized that one of the greatest problems in improving the care of maternity patients and newborn infants is the improvement of the standards of care and equipment in hospitals caring for such patients. Chicago is one of the cities which have courageously faced the inadequacies of some of its hospitals. It has provided stringent regulations for their conduct in the care of patients. The need for such regulations has made itself manifest.

The drop in the maternal mortality rate in Illinois in the last few years is highly significant. In 1936 the rate was 45; in 1937 it was 39; in 1938 it was 34; in 1939 only 31, in 1940, 29 and in -1941, 25. This is on the basis of maternal deaths per ten thousand of live births.

The infant mortality rate is just as encouraging. It dropped from 47 per 1,000 of live births in 1936 to 38 in 1939. Only thirteen states had rates of less than 40 in 1939. (Illinois 1940, 35-1 and 1941, 34-1.)

In Illinois thus far the standard of service previously established in maternal welfare has been maintained. But with one-third of Illinois' physicians called to the total war effort the problem of continuing this service on existing levels is obviously a serious one. Thus far, although the condition has not been as acute as it will be, the service has taxed the physicians who are experienced in this particular medical section and the same is true of public health nurses.

The rising birth rate calls for increased service and increased funds to provide it in order that even some of the results of the demand for physicians by war be overcome. In the end some of the services may have to be more limited and these may include the home-delivery services which are of growing importance

THE REJECTED DRAFTEE AND HIS MEDICAL AND SOCIAL PROBLEMS AS THEY RELATE TO THE COMMUNITY

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During the past seven months the St. Luke's Board of Medical Examiners has examined, roughly, one thousand draftees. These examinations were made by the Board, which was composed of representatives of the various medical specialties. The draftees were put through the examination much in the manner that automobiles are built by mass production, each doctor checking according to his specialty. At the conclusion of the physical examination, the neuropsychiatrist interviewed each one to determine his mental adaptability for the present changing conditions.

Although we are not in a position to give statistics from our findings, we believe that the incidence of physical defects in this group of draftees is comparable to the figures given by the National Headquarters of Selective Service System. Poor teeth was by far the most common defect, and totaled twenty percent of all

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rejections. Defective vision was a close second, averaging about twelve percent, but in the majority of these cases, the vision could be corrected by proper refraction and the wearing of glasses. Rejections for hernia totaled seven percent, for cardiovascular lesions, six and one-half percent, and for nervous and mental diseases, six percent.

I do not wish to burden you with many statistics. Those I have given you cover fifty-one percent of the total rejections. They were chosen to bring to your attention the fact that most of these defects can be easily remedied. The government estimates that an average of one hundred and twenty dollars will cover the cost of medical care necessary to place these men in the armed forces. This is certainly an acute problem, both from the standpoint of rehabilitation for the army as well as rehabilitation to carry on in civilian life. It requires the cooperation of the government, medical profession, and medical social workers.

The draftees represented all sections of Chicago and suburbs, but as would be expected, the largest proportion of rejections came from the underprivileged communities — the group of boys who came to us from the stockyard and North Clark Street districts was a far inferior group of candidates to those coming from the residential sections of Austin or Oak Park and other suburbs. This first group of boys did not follow directions although rooms were labeled and guides placed at proper stations to direct the boys from doctor to doctor. They were noisy, boisterous, and self-conscious to the extent that they gave the impression of being non-cooperative. As I have stated, this we expected.

However, we were not prepared for the dismaying revelation that in a metropolitan city there would be found boys between the ages of twenty-one and twenty-eight who could neither read nor write. This conclusion was based on the fact that they could not interpret their questionnaires and in some cases were unable to sign their names. In this country where large public funds are expended annually to provide a basic education for every child, only two explanations can be offered for these existing conditions:

a. Subnormal mentality, or
b. Inadequate educational program

Perhaps one of our social workers was not amiss when she commented that she wondered whether or not the truant officers were still doing their jobs. In order to justly determine the underlying factor for illiteracy, the psychiatrist gave many Intelligence Quotient tests. In every instance the test revealed a development below eighty, and in one case, sixty-four. This latter case was the product of the ungraded school system, although curiously enough he held a responsible job. Surely these conditions offer a fertile field and a mighty challenge to the social workers. I would be interested to know your reactions to these apalling facts and to learn what statistics you have from your districts concerning the lack of education.

Cases of malingering were fewer than expected, and the questionable ones were directed to the neuropsychiatrists. One of the city policemen reported back to our department on four different occasions and on each visit had a new series of complaints. Finally, it was necessary for the psychiatrist to tell the young man that if he persisted in his endeavour to avoid service, it would be necessary to report him to the Police Department as unqualified to carry on his police duties and to carry a gun. This threat served its purpose and all his former ailments have now "gone with the wind" and he is serving in the army.

We had the experience of having several candidates present themselves for examination, who were active tuberculous patients and were under active treatment at the Municipal Tuberculosis Sanitarium. One of these boys came to the examination from his bed in the sanitarium. It was very easy to check on his record, and he was quickly released. The inadvisability of having active tuberculous patients in contact with others is too obvious for discussion. One questions the intelligence of a government plan that does not provide *ipso facto* exemption for tuberculous or other acutely ill patients.

It has been interesting and encouraging to note the upward surge in morale following Pearl Harbor. Prior to December 7, 1941 many of the boys were a bit rebellious and reported for examination only because it was mandatory. Many expressed the opinion that it was not our fight. After Pearl Harbor it was an entirely different picture, and we felt that the change reflected the "esprit de corps" of their respective communities.

We are at war, a war that will tax us all very heavily. We will win this war, but the material and manpower losses and the duration of the war are dependent on what we, individually and collectively, contribute. The rejected draftee and his medical and social problems as they relate to the community is a very important part of our work as physicians and medical social workers, both as a war effort and a post-war program.

If the rejected draftee is to be rehabilitated so that later he can de inducted into the army or assume the responsibilities of civilian life, the government must establish a definite program whereby he can be given proper care. This plan should include using the now existing hospital facilities, the work to be done by the private physicians at reasonable rates. Whether this expense should be borne by the Federal Government or by the State or Local Governments is a question. It is my opinion that it should be borne by the Federal Government. It should be mandatory that the rejected draftee make every effort for rehabilitation. This plan should include some provision for systematic follow-up.

The role of the doctor in this program should be one of volunteering to care for from two to five such persons weekly at established fees. The dentists would of necessity come under the arrangement.

CLINICAL REPORT OF THREE RECTAL CASES

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Introduction: The following cases are presented as examples of interesting material of rectal disease among children. Each case has an academic point of interest, which, while not entirely new, is often forgotten or not appreciated at the proper time.

Strange as it may seem, the material to be presented has undoubtedly been written in text books or reference books, but apparently current literature written from time to time is more widely read.

CASE 1 — IMPERFORATE ANUS

This patient came to our attention recently. The case is that of a girl, age 23, who was referred by a physician in a town nearby. The essential complaint was a persistent diarrhea and a rectal incontinence, of twenty-three years standing; the stool was not formed and contained no blood, pus or mucus. The patient has received various forms of treatment in a conservative way but apparently did not improve. She became especially concerned about her condition in the last few years when her social contacts were becoming more important and more urgent.

In her past history the essential information was relative to an incision made in the rectum at infancy because of a closed rectum.

She was admitted to the Grant Hospital on July 21, 1938.

Proctoscopic Examination: Revealed the colon and rectum negative for any malignancy or ulcerative lesion for a distance of 30 cm. There was absolute relaxation of the rectal sphincter — the tonus was especially lax at the anterior rectal wall. (knee-chest position). The usual skin ridges were obliterated in the anterior rectal margin, indicating that the corrugator cutis ani fibers were injured.

Operation: An incision was made between the posterior vaginal wall and the anterior rectal wall and laterally on both sides to a point within reach of the levator ani muscle. A complete separation of the external and internal sphincter ani muscle at the central tendinous point was noted. The transverse perinaei M. were intact. We then brought the middle fibers of the levator ani M. of one side across to the anterior rectal sphincter and sutured them to the anterior portion of levator ani M. of the opposite side and included the external and internal sphincter ani M. in the suture. Another suture was fixed at the central tendinous point to include the transverse perinaei M. (deep fibers). The same procedure was carried out on the opposite side for a distance of about 3 cm. proximally from external orifice. The fascial planes were reinforced and skin layers replaced by black silk suture.

After Care: It is needless to mention that the sphincter should be put at rest for at least four to five days and that the diet should consist of low residue, high in caloric value and high in vitamin content for two to three weeks.

"Follow Up": The patient was observed at regular intervals at the office, after she was discharged from the hospital on July 31, 1938. The sphincter apparently was in good tonus and could be put in greater constriction at will. The stools were getting more and more formed and the number of defecations were reduced to two or three in twenty-four hours. The patient gained weight and resumed her previous occupation.

DISCUSSION

One must recall the fact that congenital abnormalities of the rectum and anus are exceedingly rare. Imperforate anus occurs once in ten thousand births. As a general rule two main types of malformations are described in the rectum and anus; (a) the imperforate anus where the embryonic defect is a septum

separating the anus from the rectum; and (b) the imperforate rectum where a portion of the rectal tube is absent. Our case was apparently a case of an imperforate anus. In the imperforate anus a septum which in fetal life separates the proctodeum from the post-allantoic gut is not obliterated entirely or may remain completely.

On the basis of the history that an operation was performed in infancy for a closed rectum and a rectal incontinence that followed is good evidence that injury to the rectal sphincter occured very likely during the operation. It is quite possible to injure the sphincter in infancy as the muscle fibers are very indistinct and are situated in close proximity to the skin layers.

Some authors do not advise such surgery during infancy unless as an extreme emergency. It has been suggested by Mummery that such operations should be postponed until about ten years of age unless in absolute closures of the anus. Uufortunately the sphincter in this patient remained unrepaired until twenty-three years of age.

In the diagnosis of imperforate anus it is essential to recall the possibility of a fluctuating mass (mucus plug) being retained by an anorectal membrane and not by an anomalous septum.

The history of the methods of treatments used in the early days is very interesting. Rankin (1935) refers to Egineta as the first to have incised an imperforate anus in the 17th Century. In 1787 Sir Benjamin Bell advocated the perineal dissection and trocar puncture. In the States, Campbell of Kentucky was first to perform an operation for imperforate anus. In general, it may be said that in the treatment of the earlier days no attempt was made to preserve the sphincter — the all important seemed to be the immediate emptying of the imperforate pouch — while the present trend, of course, is to accomplish both, the early evacuation of the rectal sac and the preservation of the rectal sphincter.

CASE II. PROCIDENTIA OF THE RECTUM IN A CHILD

The second case is that of a boy, age eight, who was referred to us because of a marked protrusion of the rectum at each defecation. Apparently this condition first started as a simple *prolapse of the mucosa* which would recede spontaneously after each stool and later it failed to recede unless by manual reduction. The patient at first was constipated but later incontinence developed. A strange story was related by the parent. The child in general enjoyed poor health and at the age of four became very badly constipated and when home remedies failed a physician was called and upon his advice daily enemas were prescribed. The same physician was not recalled and the parents continued with daily enemas for two years — it was after this period that the mucosal protrusion and subsequently the rectal prolapse became evident.

General Examination: Revealed the child was pale, poorly nourished, irritable but subdued and behaved too well to be a normal child. In general, however there were no significant findings in the abdomen, or heart and chest.

Dicital Examination: Revealed a prolapse of the mucosa, the muscularis, and also the serosa. When the protrusion was placed between two fingers there was evidence of loops of small intestine residing in the peritoneal pocket. The protrusion extended for about six inches, was of a deep reddish-black color and displayed evidence of inflammatory reaction. Sphincter action was definitely weakened inasmuch as the patient was not able to contract the muscle adequately at will, and at this time reduction of the prolapse was very difficult due to edema.

Proctoscopic Examination: Displayed no organic or ulcerative lesions for 20 cm. proximal to the margin of the prolapse.

Remarks: Because of the duration of the prolapse, the extent and the gravity of prolonging any conservative measures, radical treatment was advised.

In general statistical evidence points to the fact that palliative measures for procidentia of the rectum do not suffice and therefore I chose the *operation* using (Cunningham's technic) incorporating this with a modified Ball operation method.

Procedure: Patient was placed in lithotomy position and after due cleansing process, the prolapsed rectum was put on tension and a circular incision made on the outer surface of the prolapse just lateral to the mucocutaneous junction. At this point the proximal segments of the rectum are held in position by Allis forceps, caution being exerted to avoid injury to the small intestine as the peritoneal reflection is exposed.

In this manner the entire prolapsed rectal tube incorporating all the coats was severed from the redundant rectal prolapse. At this point the cut edge of the rectal mucosa (proximal portion) was sutured to the natural muco-cutaneous junction by a modified Ball operation technic. A high rectal tube was placed above line of suture and bowel activity abolished for ten days.

Post Operative Care: Is most essential — the following suggestions were carried out rigidly. The patient was given a *DIET* of high vitamin, high calory and of extremely low residue. To avoid *STRAIN* opium suppositories were placed in the rectum, and the patient was put in a *POSITION* semiprone or on abdomen for two weeks.

Later small amounts of mineral oil were given to assure a soft stool and parts were cleaned after each defecation to avoid infections entering the peritoneal cavity. After several weeks the boy was permitted to be up and about on a fairly liberal diet as far as choice of foods were concerned but still maintaining a low residue.

Progress: Up to the present writing the patient has gained about ten pounds, has absolute control of the rectal sphincter and has one or two stools daily. He has returned to the grade school and carries a normal program.

DISCUSSION

It might be of import to recall that prolapse of the rectum is most common in children of poor mentality and poor health, and that such predisposing factors as straining at stools, a severe cough, or constipation should be considered seriously. In this particular instance while the child was not particularly bright, he could not be accused on that score, for apparently it was the parent or the physician who was in error in prescribing a daily enema for the boy for two years.

A true prolapse of the rectum (procidentia) however is more common in the adult and therefore this case is an exception to the general rule.

CASE III — RECTAL BLEEDING

This case should be of interest to the general practitioner and the pediatrican from the standpoint of sequence of procedure in making a diagnosis.

The child was three years of age — one day the mother noticed some bright red blood in the stool and reported it to the family physician. A stool was examined and blood was reported positive repeatedly. The family physician, out of immediate reach of laboratory facilities, attempted symtomatic treatment. This proved of no avail and the child was taken to a large town nearby for diagnosis.

Again the stools were re-examined and a complete Gastro-intestinal series of x-rays were made. Inasmuch as the x-rays revealed no definite findings, a probable diagnosis was made of a possible parasitic disease and treatment instituted along those lines. The blood continued to appear in the stool and still no definite diagnosis was made. There upon the family physician referred the patient to us for observation. The child was placed on a clear liquid diet and after due persuasion a proctoscopic examination revealed two large bleeding polyps about four and six inches proximal to the external orifice at six and twelve o'clock positions.

On the following day after due preparation, the child was anaesthetized and polyps were removed surgically. We were especially careful to remove the polyp in its entirety and to disect it to include the basement membrane. In the*AFTER CARE* attention was directed towards a low residue diet of high caloric and high vitamin value, and towards establishing a daily soft stool without undue straining.

DISCUSSION

The main point that I wish to re-emphasize is the fact that one should not attempt to detect the cause of bright red blood in the stool by means of x-ray studies. It seems apparent to all what the procedure should be when this fact is recalled but so many of us make the same error again and again. My only interest at this time is to suggest the sequence of procedure in making a diagnosis of bright red blood in the stool in a child. First, examine rectum for bleeding, external hemorrhoids, and then if no hemorrhoids observed, examine stool for parasites and worms. If no microscopic findings are reported examine child proctoscopically with infant instrument for polyps, the most common cause for rectal bleeding in a young child.

It is obvious that bright red blood cannot possibly be detected by x-ray diagnosis if the bleeding is from the lower portion of the tract and if it is from the gastric portion of the tract one would not expect it to be bright red blood; moreover if the bleeding is of gastric origin and is profuse enough to appear as bright red in the stool it would be a great error to employ x-ray media in a condition so acute.

CENTRALLY LOCATED TUMORS OF THE FRONTAL PARTS OF THE BRAIN

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Localization of tumors in a "silent" region of the brain is *evident* when such tumors remain undiagnosed in spite of long observation or are recognized only shortly before death. It is true that the general signs of an organic affection of the brain are present but they are not sufficiently conclusive to establish the diagnosis. In the majority of cases, one finds these tumors in the medullary substance of the hemispheres, with the middle portion of the frontal lobe and the basal parts of the brain anterior to the infundibular region being frequently the site of predilection. Tumors of that type were found in three instances. They presented, however, the peculiarity of a strict midline localization with symmetrical expansion to both sides. The vague symptomatology found in these cases is well explained by the fact that the basal ganglia or the cortical substance were not involved for a long time, if at all.

The following report of three cases will illustrate the prevailing neurological and psychiatric symptoms and discuss the gross and microscopic postmortem examination. Special reference will be made to the psychosomatic relationship and vegetative disturbances.

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(1). H. K., a white male, 49 years old. It was noticed that the patient's memory has been failing gradually since 1936 and rather severely during the last year. The patient was unable to sleep at night and slept mostly during the day. He would sit for hours, appearing stuporous. For two months prior to his admission to the hospital in March, 1939, he soiled his clothing with urine and feces and acted like a helpless child. He was euphoric and showed no concern over his mental deterioration. Examination in the hospital found the patient to be retarded in the psychic and motor spheres, such retardation resulting in stuporous, hypokinetic behaviour. He was disoriented for time and place. His memory showed a marked defect for recent events. The physical examination was negative except for a hypotension of 90/60 mm Hg. Hearing was normal on both sides. No aphasic, agraphic or apractic signs were present. Serology was negative.

The mental deterioration progressed during the following weeks. Marked general hyperesthesia became apparent. Ophthalmoscopic examination revealed no pathologic findings.

In the beginning of May, 1940, about one year after the admission to the Hospital, the spinal fluid showed twelve cells and positive Pandy and Ross-Jones. Encephalography disclosed signs of pressure exerted from the base of the brain to the hypothalamus; a brain tumor in that region and in front of the third ventricle was suspected. The patient expired in May, 1940. The autopsy was performed twelve hours after death. There was a moderate obesity of the trunk. The skin was soft in consistency, resembling that of a child. The hair in the armpits was scanty.

Upon opening the skull, the dura was stretched and tense and the brain was swollen. Inspection of the base of the brain showed a cystic tumor located in the midline above the pituitary gland extending above and frontally from the optic chiasm, growing through the inferior portion of the septum pellucidum into the lateral ventricles. The hypothalamus and the massa intermedia of the thalamus were dislodged and compressed. The tumor obstructed the Sylvian aqueduct, producing a very marked hydrocephalus internus of the lateral ventricles.

The tumor appeared to have developed from the upper end of the hypophysial stalk above the diaphragm, probably originating from the primordial cells of the craniopharyngial duct.

Microscopically the tumor was formed of innumerable cysts which were lined by single layers of columnar cells growing in folds and papillae. The structure of the cells proclaimed them to be ameloblasts or adamantinoblasts, thus placing this tumor in the adamantinoma variety of the craniopharyngiomas (Critchley and Ironside)[1]. The leptomeninges showed marked lymphocytic infiltrations in the basal portions of the brain and around the entire spinal cord.

The localization of the tumor explains the absence of motor tract involvement. The general hyperesthesia most likely developed due to compression of the thalamus. The pituitary gland, the optic nerves and tracts lying underneath the tumor were not affected. The reversal of the sleep ratio, the stupor, the constant low blood pressure, the scanty body hair, and the soft skin and the very early loss of bladder and anal control also represent hypothalamic signs.

These latter symptoms, however, may possibly be explained by affection of the frontal lobe. The findings in the spinal fluid were due to a chronic inflammatory process of the meninges, purely reactive and not infectious in character.

(2). F. S. 51 years old, a white male, was admitted to the Hospital on July 26, 1940, in a "state of depression and forgetfulness." There was urinary and fecal incontinence. About six weeks prior to admission, the patient became forgetful and at the same time adequate sexual relations ceased. Examination revealed the patient was in a fair state of nutrition. He was not oriented as to time. He stated that he heard voices telling him to return to work. He was under the impression that he might be someone else but he was unable to explain these changes in his personality. He was very apathetic. His blood pressure reading was 100/70. Ophthalmological examination was negative. No abnormal deep reflexes were found. Abdominal reflexes were absent. Gait, speech and coordination were normal. Blood and Kahn spinal fluid examinations were negative. Four weeks after admission to the Hospital, the deep tendon reflexes became very active, and a positive Gordon and Babinski sign appeared on the left side.

There was loss of bladder control and fecal incontinence. The patient appeared dull throughout his stay in the Hospital. Three days before death on May 5, 1940, convulsive seizures set in. They were limited to the right side and the patient did not lose consciousness during the seizure. Following the seizures a right hemiplegia and motor aphasia remained. The right leg presented a positive Gordon and Babinski reflex but no impairment of motor power. The left arm was only slightly affected. It showed relatively well preserved motor power but was inhibited in the execution of purposive movements and a motor apraxia of the left hand was manifest.

The blood pressure remained on the same low level. Four months after the onset of the disease, the patient expired from pneumonia.

The autopsy performed five hours after death showed the body to be that of a moderately nourished white male. The brain weighed 1350 g. The frontal region of the brain was slightly firmer in consistency than normally. A coronal section through this frontal area revealed a tumor the size of a small peach. This tumor had developed in the middle of the brain substance reaching from the genu corporis callosi, symmetrically expanding into both frontal lobes, displacing the anterior part of the lateral ventricles posteriorly. The tumor supplanted the anterior portion of the corpus callosum which was about 2.5 cm thick and symmetrically invaded on each side the head of the

caudate nucleus. It reached posteriorly almost to the level of the anterior commissure without involving the latter and the crura fornicis, however. The internal capsule was invaded by the tumor on the left side. The tumor was firm in consistence and greyish-red in color, interspersed with cystic areas of necrosis.

The microscopical study revealed this tumor to be an astrocytoma originating in the anterior portion of the corpus callosum. A most unusual finding in this tumor was the marked inflammatory reaction. Very heavy layers of lyphocytes and a few plasma cells surrounded many vessels. There were regions where these infiltrations formed great clusters of lymphocytes resembling lymphoid tissue. In other regions smaller lymph cell infiltrations ensheathed the proliferated vessel walls. The pia was slightly thickened but showed no inflammatory change even at the point where the tumor as in the insula Reilii crept into the superficial layers of the cortical substance.

The extension of the tumor in the brain substance allows a rather precise correlation to the clinical symptoms. The symmerical involvement of the anterior portion of the corpus callosum and the invasion of the medullary layer underneath the premotor region and the frontal portion of the insula Reilii, predominatingly on the left side accounted for the Jacksonian type of the epileptic seizures on the right side, the right hemiplegia and the aphasia, while the left side of the body exhibited a positive Babinski and Gordon without marked paresis but with apraxia of the left hand. Again the low blood pressure deserves mention. The organic changes further explain the absence of the abdominal reflexes, a finding noted at the first examination. The very early failure of bladder and bowel movement control should again be mentioned as a possible frontal lobe sign. Unfortunately the psychic changes, (euphoria, dullness, depersonalization and acoustic hallucinations), were not intensively studied. They are apt to be related to a frontal brain affection and presented the only symptom for many months. The striking motor signs occurred late in the final state.

(3). V. S. Bottle blower, a white male, 66 years old. The patient's personality changed considerable about the middle of November, 1941. He lost interest and became irresponsive. Very early in the course of the disease — even before the onset of the mentioned apathy — he lost control of bladder and sphincter ani. He found it very difficult to express himself and to understand ordinary conversation. In addition to these symptoms betraying aphasic traits, signs of apparent apraxia were revealed from the history. The patient did not know how to use his spoon nor how to pull off his jacket. Upon admission to the Hospital, on December 30, 1941, the patient was in a state of confusion.

The neurological examination was extremely handicapped by the confused apathetic state of the patient who did not even understand simple questions. He had to be spoon-fed and exhibited a surprisingly good appetite, eating almost ravenously. Proctoscopical examination confirmed the diagnosis rectal carcinoma.

Premortem a paraparesis of both legs and dysphagia occurred. The patient expired on January 12, 1942.

The autopsy was performed two hours after death. The brain was swollen, weighing 1,785 g. A tumor the size of an apple was seen in the midline, centering in the rostrum corporis callosi and expanding 2 cm frontally from the anterior end of the genu corporis callosi. The tumor invaded the frontal extremities of the gyrus cinguli and the medullary layer over the parolfactory region on both sides. The frontal parts of the caudate nucleus, the anterior limb of the internal capsule, the anterior columns of the fornices were completely replaced by the growth which presented relatively hard whitish nodules surrounded by softened areas, small hemorrhages and fibrous strands. It occluded completely the anterior ventricular spaces. Posteriorly the tumor was bounded by the anterior commissure.

The microscopical study of the rectal tumor revealed an adenocarcinoma. The tumor of the brain proved to be an extensive carcinomatous metastasis in the frontal lobes and in the anterior portions of the basal ganglia, conveyed to the brain probably by way of the lymph ducts accompanying the anterior cerebral arteries.

Correlating the anatomical findings with the clinical symptoms it was seen that a very fast growing frontal tumor produced the first signs about three months before death: dullness, confusion, rapidly progressive deterioration, a slowly advancing aphasia, ravenous appetite and finally spasticity and paraparesis of the legs. These symptoms were clearly based on the destructive lesion in and between the middle parts of both frontal lobes and upon the invasion of both internal capsules. These neurological signs occurred in the final stage, however. Early in the disease the incontinence of bladder and bowels began. One cannot attribute loss of bladder and anal control to the changes in the frontal lobe. It is more likely that they were consequent upon the carcinomatous growth in the rectum and in the bladder wall.

A schematic picture of a mid-saggittal and a frontal section through the brain demonstrates best the site and extension of the tumor in the three cases described above.

COMMENT

Wilson[2] found it convenient, in the classification of frontal tumors, to differentiate between anterior (or prefrontal), middle and posterior groups. In the anterior group (frontal poles) usually no specific syndrome is found unless the neighboring olfactory region is involved. Farther back in the middle third pressure on neighboring structures may reduce or abolish the contralateral abdominal reflexes. Indeed, Case 2 presented early in the disease the complete loss of the abdominal reflexes, in all likelihood related

to the symmetrical bilateral affection of the frontal lobes. The same patient later developed a motor apraxia of the left hand as a result of destruction of the callosal fibers and as a result of the subcortical leftsided lesion which produced the right hemiplegia and motor aphasia. The evaluation of an almost similar syndrome on both sides in Case 3 was precluded by the complete lack of understanding and cooperation of the patient. The mental picture corresponded to an agnosia and ideational (sensory) apraxia. The definite motor palsies in the final stages of Cases 2 and 3 point clearly to a bilateral affection of the posterior third of the front lobes, of the premotor and rolandic region, and their pathways.

In order to assign the mental disorders of our patients to specific parts of the brain, it should be remembered that subcortical medullary tumors are more likely to produce intellectual and emotional disorders. This is particularly true of those tumors which destroy large association fiber systems. "Cortical growths do not have the same tendency to derange the psyche." (Wilson) Thus, it is evident that the striking mental disturbances point to a central medullary localization. The specific topography of the process can be determined only from the additional neurological signs. The very presence of these signs in our first case suggested the possible hypothalamic localization, while in Case 2 and 3 the possibility of a centrally located tumor in the posterior portions of both frontal lobes became apparent. No mental syndrome is sufficiently characteristic of a frontal brain lesion. The often cited symptoms of facetiousness and jocularity were absent in our cases.

The grasping and groping reactions which are thought to be fairly significant of a premotor area affection were not observed. As Wechsler[3] points out, the phenomenon depends on a moderately destructive lesion in area 6 of Brodman.

The question arises as to whether or not the disturbance of bladder and bowel control are caused by affection of the frontal lobes. Kolodny[4], Pousepp[5] and Frazier[6] favor such a viewpoint. Wilson remarks on their frequent occurrence. On the other hand he assumes a widespread cerebral representation of the vesical and rectal mechanisms. It would seem preferable to state only the facts and to postpone final decision of this problem until a larger number of frontal tumor cases has been examined.

The symptom of morbid hunger described as a frontal sign by Watts[7] was noted in our case with the carcinoma brain metastasis. It is certainly worth mentioning in connection with the well known occurrence of ravenous appetite in senile and arteriosclerotic individuals as well as in general paresis patients with predominantly frontal brain atrophy.

It is obvious that the above-mentioned vesical and rectal mechanism and the regulation of food intake are normally influenced by higher psychic functions, the seat of which is believed to be in the frontal brain. This opinion was substantiated during the last few years by the experimental approach to the problem of vegetative functions and their cortical representation. Watts produced changes in the gastro-intestinal activities of monkeys by extirpation and stimulation of the premotor area. He bases visceral sensations in epilepsy and morbid hunger symptoms in brain tumors on premotor area stimuli. He concludes that cortical vegetative centers lie close to the somatic motor centers. This concurs with Frazier's clinical observations of abnormal hunger and should be remembered as a symptom in pure frontal lobe tumors. The older literature refers to similar observations following injury to the frontal brain, (Bechterew[8], Sollier and Delageniere[9]).

On the basis of experimental work with apes, Fulton[10] and his co-workers advanced a syndrome of the premotor region (area 6 Brodman) characterized by impaired skilled movements, loss of motor power, forced grasping reactions, spasticity, and various vegetative disturbances. No agreement exists as yet on the occurrence of these experimentally obtained frontal lobe signs in man. Rarely have *tumors* been of decisive value in clarifying delicate functional signs because of the gross destruction they cause. But a review of various frontal lobe tumors recorded in the literature leads us to believe that the experimentally obtained frontal syndrome of Fulton could be at least partially verified. Frequently, vasomotor signs — (unilateral edemas, lowered blood pressure) — as observed in our cases, respiratory arrhythmia and intestinal disturbances are reported.

The main value of Fulton's findings lies in the elucidation of a combined disturbance of motor and vegetative functions following frontal lobe lesions in human beings, as well as in those of experimental animals.

Suitable cases permit a distinction from the hypothalamic and diencephalic symptomatology. Undoubtedly there frequently occurs overlapping of frontal brain and hypothalamic signs. The complete anatomical study of both the immediately affected and the adjoining areas is decisive. Our Cases 2 and 3 did not show macro- and microscopical changes in the hypothalamic and diencephalic region.

As Fulton áttests, the frontally located somatic and mental activities are immediately correlated and integrated in the autonomic sphere. *The close relation* of the *frontal cortex* to the *autonomic nervous system* renders an adequate physiological basis for a relationship, long recognized to exist, between mental states and visceral processes (Fulton).

Frontal brain tumors are of paramount value and importance for the correlation of experimental work and neuropsychiatric observation. Because of their bilateral localization, centrally located frontal tumors should afford opportunity for intensive study of the function of the frontal lobes. In conjunction with careful studies focused on the clinical expression of the vegetative regulatory centers they promise to become a new approach to the problem of psycho-somatic relationship.

DISSCUSSION

Milton Goldberg, M.D. (Chicago) — I was particularly interested in the psychosomatic aspects of the problem presented today by Dr. Kirschbaum. It reminds me a little of the old saying that flees have little flees upon them and so on ad infinitum.

It is interesting, as one has followed the progression of the study of the visceral aspects of emotions. One recalls not so many years ago where the James Lang theory proposed that emotions were peripherally located because at that time our knowledge of the physiological functions gave us the impression that all these changes occurred peripherally and we knew of the adrenalin and other types of changes peripherally.

As further physiologic studies of the brain function became evident, we then found that there were higher coordinating centers in the fedulla. Further, there is still another chain of commands in the mid-brain.

Finally, up until recently it was assumed that the highest integrating centers, as Dr. Lichtenstein pointed out, were in the hypothalamus. Now we are beginning to realize that even on top of that there sits another king in the frontal lobe, and it is particularly interesting because of the physiology behind the operation now being performed, — the so-called frontal lobotomy for the relief of anxiety.

There is a good deal of experimental physiological evidence to indicate that this may be physiologically sound and that there may be so-called anxiety, (if we want to use that term) centers in the frontal lobe and particularly as far as visceral functions are concerned it recalls to my mind a case when I was still a medical student, doing work in pathology.

We had an eighteen month old infant who died as a result of intestinal obstruction and, when posted, was found to have an intussusception. When the brain was opened there was a large hematoma over the frontal lobe.

DR. W. R. Kirschbaum, (Manteno) : The only thing that I wish to say is that these interesting cases give us an opportunity to study the vegetative syndrome in frontal lobe lesions. I think the more we watch such cases the more we are aware that the frontal lobe has its special significance in the vegetative symptomatology, and the more we get out of experimental work. The findings of Fulton and his coworkers will be verified by certain clinical cases, including all the other occurrences found from time to time in frontal lobe affections.

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In war or in peace, the statement "Tuberculosis is preventable — curable" must be uttered again and again until this simple fundamental truth becomes part of our national thinking. Will Ross.

A CASE OF ASSOCIATED FACIAL AND INTRACRANIAL HEMANGIOMA

Louis B. Shapiro
Major, M. C.
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Although Wissung[1] in 1921 and Weber[2] in 1922 discussed the significance of nevi of the face being associated with hemangioma of the brain, it was not until 1928, following the publications of Cushing and Bailey,[3] Dandy,[4] Yakovlev and Guthrie,[5] that this condition received much attention. In 1936, Greenwald and Koota[6] made a comprehensive survey of the 81 cases published and found the following symptoms characteristic of the disease: convulsive seizures, generally Jacksonian in type, hemiplegia, mental retardation and nevus of the skin; also, other important symptoms resulting from ocular changes. They found that the authors were divided as to the pathogenesis of this condition. Lushka[7] and his group were of the opinion that the angiomas resulted from mal development of the blood vessels of the brain and skull, while Virchow[8] and his group believed that these tumor formations were true neoplasms.

Various classifications have been made for these blood vessel tumors of the brain, but that by Cushing and Bailey[3] appears to be the most acceptable because of its simplicity. They classified the nevi into telangiectasis, venous angiomas and arterial angiomas. They further subdivided the venous angiomas of the brain, which were associated with nevi of the skin, into three anatomical varieties, simple, serpentine, and racemose. They also divided them into superficial and deep, the former being confined to the surface, while the latter extended into the brain in a wedge-shaped manner.

Yakovlev and Guthrie pointed out that although angiomas may arise from any structure having blood vessels, the nervous system, skin, and retina seem to be the tissues of choice. Cushing and Bailey showed that the angioblastic tumors are principally confined to the cerebellum, while the angiomata are more common in the cerebrum. Dandy has described the angiomas grossly as being red-brown, sponge-like, compressible, well circumscribed, but never encapsulated. They do not pulsate. Microscopically, there are endothelial-lined blood spaces with scant or no supporting coat. Thrombosis and calcification frequently occur. The pathological reports point out, in addition to the blood vessel tumors, the following changes: hypoplasia of the brain, microgyri, thickened pia, and areas of calcification; the latter being usually in the outer layers of the cortex. The calcifications of these abnormal blood vessels and of areas of the brain, are responsible for the shadows seen in the roentgenograms. These are most often seen in the occipital lobe.

Greenwald and Koota found, that the symptoms most frequently made their appearance in early infancy; usually from six months to one year of age. Convulsions of the Jacksonian type appeared to be the most outstanding clinical finding. In about 51% of the cases hemiplegias soon developed; usually on the side opposite the lesion. Mental retardation was found to be present in about 50%. Eye symptoms, such as unilateral exopathalmos, buphthalmos, palsies, atrophies, etc., occurred in 79%. The following symptoms were also found: tremors, speech impairment, vertigo, vomiting, headaches, deafness, urinary incontenance, intestinal bleeding, and obesity. Other physical developmental abnormalities were noted such as: high arched palate, asymmetry of ears, under-developed testicles, and flattening of the nasal bridge. In a considerable number of the cases, there was a latent period, during which the patient was symptom-free. In a few cases, this period lasted from 8 to 14 years. The growth of the lesion appears to be slow; in some cases the angiomas may remain stationary. Frequently symptoms and growth set in after trauma.

Thirty-four of the 81 cases reported were studied roentgenologically. X-Rays of the skull revealed a characteristic shadow that had a double contour, and in some cases seemed to follow the outline of the gyri and sulci of the cortex. In most of the cases, the shadows appeared to be in the region of the occipital lobe. Some showed atrophy of the brain and marked increase in the vascularization.

The immediate prognostic outlook was not bad. No cases were reported as dying soon after the

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Figure 1

appearance of the convulsion or hemiplegia. However, the long-term outlet does not appear to have been favorable, since most of the cases died in the second or third decade.

The treatment thus far appears to have been confined to three techniques, namely, operation, irradiation, and a combination of both. Cushing and Bailey[3] felt that surgery was not indicated, whereas, Dandy[9] stated that the only hope was in open intervention and extirpation of the lesion. Treatment with radium gave good results in the hands of Vincent and Heuyer.[10] Dyke[11] used roentgen therapy with some success. Magnus[12] recommended surgery and radiotherapy.

The purpose of this communication is to present a case of associated facial and intracranial hemangiomata in whom the outstanding clinical findings consisted of left-sided facial nevus, calcifications in the occipital cortex, localized Jacksonian convulsive seizures involving the right lower extremity, and urinary incontinence.

CASE REPORT

R. M. B., a 24-year old white male, was admitted to the Neuropsychiatric Section of the Station Hospital, Fort Bliss, Texas, on October 4, 1941, with a history of having had an epileptic seizure. Family history was negative for nervous or mental diseases. No other member in the immediate family had nevi. He had a high school education, and then worked as an automobile mechanic until he entered the service in February of 1941. His medical history was essentially negative except for a large venous type of angioma that was confined to the left side of the face. (See Fig. 1.) At the age of 20, dry ice was used in a therapeutic attempt to reduce the unsightly appearance of the nevus, but without success. He remained in good health until August 20, 1941, when he developed cramp-like sensations in his right, lower extremity. He was admitted to the Station Hospital and because of a urinary incontinence, he was sent to the Urological Service. Complete studies, including cystoscopic examinations failed to demonstrate any pathology except for a hyposadias. He was returned to duty and continued until October 4, 1941 when he developed a generalized epileptic seizure and was readmitted to the Station Hospital.

Physical examination revealed an obese white male, 5′ 10½″ in height and weighing 190 pounds. The temperature, pulse and respiration were normal. The positive findings consisted of the above mentioned facial angioma, and the moderate hypospadias. The neurological examination was completely negative. He complained of muscular aches, describing it as though he had had a severe workout the night before. Careful questioning failed to elicit any previous history of localized or generalized convulsive seizures.

Routine laboratory studies were carried out including X-rays of the skull. These demonstrated the presence of areas of calcification in the region of the occipital cortex. They appeared as double contour shadows and seemed to outline some of the gyri and sulci of the cortex. (See Fig. 2.) Upon stereoscopic examination, these lines of calcification were found to be within the cranial cavity about one and one-half centimeters from the inner table. X-ray studies of the gastro-intestinal tract were negative. Spinal fluid examination disclosed the spinal fluid pressure to be within normal limits; the fluid was clear and colorless and all tests were negative. Blood chemistry, blood counts, urinalysis, and basal metabolic readings were of no significance.

While in the hospital, the patient continued to have repeated convulsive seizures of the Jacksonian type. These were confined to the right lower extremity. On several occasions, they became generalized. At no time did the patient lose consciousness. After one of these attacks, neurological examination revealed the presence of a positive Babinski on the right side and localized muscular weakness of the right lower extremity.



Figure 2

COMMENT

The diagnosis of associated facial and intracranial hemangiomata was made because of the Jacksonian convulsive seizures, the x-ray evidence of angiomatous involvement of the cerebral cortex and the presence of the large facial nevus. The possibility of a complicating Hippel's disease was considered but careful funduscopic examination failed to disclose any angiomata of the fundi. Lindau's disease was provisionally ruled out because there were no symptoms of a cerebellar nature. Sturge-Weber syndrome frequently presents a similar clinical picture, but the absence of ocular symptoms excludes this possibility.

This patient presents a number of very interesting findings. His facial nevus, like most of the cases reported, was confined to the skin area innervated by the upper two branches of the trigeminal nerve. In 1906, Cushing called attention to this finding and in one case demonstrated an associated under-development of the Gasserian ganglion. Of considerable interest is the prolonged latent period. This patient developed his first symptoms after 24 years. Most of the cases cited by Greenwald and Koota, showed symptoms during the first year of life, while the longest latent period they recorded was 14 years. The question why this patient developed his symptoms at this time remains unanswered. There was no history of trauma and the only therapeutic manipulation attempted was made four years ago.

Although the x-ray studies show calcifications in the occipital cortex, it is felt that there must be angiomatas areas elsewhere in the brain, possibly in the region of the paracentral lobule on the left side. This might account for the symptoms of urinary incontinence and localized Jacksonian convulsive seizures of the right lower extremity.

CONCLUSIONS

A case of associated facial and intracranial hemangiomata has been presented in which the outstanding clinical findings consisted of left-sided facial nevus, calcifications in the occipital cortex, localized Jacksonian convulsive seizures involving the right lower extremity, and urinary incontinence.

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In Warsaw, Poland, in the first eight months of 1941, 9000 people died of tuberculosis, compared with 3,000 in 1938. Children are malformed and ghost-like, suffering from anemia and softening of the bones. In the first half of 1941, there were 8,000 births and 21,800 deaths. From "A Tale of a City," Off. of War Inf.

NON-TUBERCULOUS LESIONS SIMULATING PULMONARY TUBERCULOSIS

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Non tuberculous lesions of the lungs often simulate pulmonary tuberculosis that quite a number of patients who do not have tuberculosis are labeled as tuberculous and treated as such. Medical treatment of tuberculosis, which fundamentally is rest and general hygiene with a properly balanced diet, is a good thing even in non-tuberculous cases. However, the diagnosis of tuberculosis carries with it a certain social and economic stigma that the person must carry for a long time. His intimate friends and relatives may look upon him as an outcast and a horrible untouchable. He is turned down whenever he applies for any work. He is either turned down by insurance Companies or there is an increase in the premiums that he must pay for his insurance. He may even be denied the privilege and honor to serve his country as a member of the armed forces.

Such being the case it behooves everyone doing tuberculosis work to avoid indiscriminate diagnosis of tuberculosis on patients who may present suspicious findings, but not clear cut evidence. Although it would be best to treat such patients as tuberculous, until proven otherwise, a definite diagnosis of pulmonary tuberculosis should be withheld until positive evidence is present to justify such diagnosis.

With the great urge on the part of phthisiologists to control the tuberculous patient in the earlier stages of the disease, the chances for erroneous diagnoses become definitely increased. This is especially true because of the large number of chest x-rays that are taken routinely of various groups of patients. Industrial plants, the Army and Navy, and a number of welfare groups have made it a point to x-ray the chest of any and all persons who come under their influence. Routine x-rays are a good thing, but the proper interpretation of these shadows is most important. The film examiner who sees a shadow may very easily call it definitely a tuberculous lesion, but very often attributes to it also the thought that such a lesion is active. Quite frequently a patient with a healed primary lesion would be classified as a case of active tuberculosis when experience has shown us that such patients will fare very well with that healed lesion, but still carry the evidence of scar or calcification for the rest of their lives. We often also see patients who give a definite history of close contact to an active case of tuberculosis, who also present some of the ear marks of toxicity such as tiredness, afternoon fever, night sweats and cough, and even have evidence of moisture in the lung, without any x-ray evidence of pulmonary pathology. Such a case may only present a slight shrinkage of the upper three intercostal spaces and no exudative infiltrate. Such a case may go on with his symptoms and if not treated as a tuberculous patient may show x-ray evidence of pathology one to two years later.

The diagnosis of pulmonary tuberculosis becomes more difficult especially in cases where non-tuberculous lesions exist which simulate tuberculosis. Such lesions as early upper sulcus tumors, upper lobe bronchiectasis or pulmonary abcess, upper mediastinal tumors and upper lobe carcinoma of the lung are quite difficult to differentiate without a thorough study of the patient.

Proper treatment of the non-tuberculous lesion will make the difference between life and death of such patients especially if neglected until the later stages of the disease. To treat a case of pulmonary abscess with collapse therapy will in most cases be fatal to the patient. To give potassium iodide to a case of tuberculosis, in whom a fungus infection is suspected, may also prove disastrous to the patient. To allow a patient with an intrathoracic tumor to go on to an inoperable stage, while he is treated for tuberculosis, is very negligent and unkind to humanity.

Realizing the pitfalls a phthisiologist may fall into and in behalf of a better break given to the patient, this paper is written to emphasize the importance of more careful study of the patient with pulmonary findings. It is a known fact that the greatest majority of patients admitted to a sanatorium are afflicted with pulmonary tuberculosis. Such patients usually have a clear cut history of contact to a case of active

tuberculosis, typical symptoms and physical signs, characteristic x-ray findings, and frequently a positive sputum. Here and there, however, a pseudo-tuberculosis case finds its way into the sanatorium and only a careful study of such a patient will result in a correct classification of the case. Such patients may give a history of cough, or loss of weight, or hemoptysis, or even x-ray evidence suggestive of possible pulmonary tuberculosis. Upon careful study such patients may turn out to be fungus infections, bronchiectasis, pulmonary neo-plasm and a number of less common pulmonary lesions.

In this paper we shall attempt to analyze one hundred consecutive cases who had an admission diagnosis of pulmonary tuberculosis and on more detailed study they turned out to be non-tuberculous.

Eventual diagnosis in these patients in the order of its frequency was Bronchiectasis (18%); Asthma (14%); Pulmonary cancer (10%); Pneumonoconiosis (10%); Cardiac hypertrophy (7%); Bronchitis (7%); Pulmonary abscess (6%); Myocarditis and Endocarditis (5%); Aortic aneurysm (4%); Hodgkins disease (4%); Non-clinical tuberculosis (4%); Mitral insufficiency (2%); Pulmonary syphilis (2%); and 1% each of empyema, post pneumonic pulmonary residual, influenza, pleurisy, actinomycosis, cirrhosis of the liver and catarrhal jaundice. Such a list of lesions emphasizes the importance of not considering facts at their face value, but carefully analyzing them.

It would be of value to analyze the case records of these patients in the hope of pointing out where the referring physician fell down in his diagnosis. In the study of the primary complaint it was found that 74 had cough, in 32 of whom the cough was productive, the sputum amounting from one to eight ounces per day; in 8 there was a hemoptysis; and in 3 there was a frank pulmonary hemorrhage. Loss of weight was found in 70 cases, of whom 44 gave an average of 17 pounds, with a maximum loss of 70 pounds and a minimum loss of 4 pounds. Tiredness was the next complaint in frequency with a total of 41 cases, 20 of whom complained of tiredness on exertion, and 21 complained of tiredness on what may be termed a normal mode of living. Definite dyspnea was encountered in 16 cases. Twenty patients complained of night sweats and twenty stated frequent recurrence of colds. It is interesting to note that in this group 88 were males and only 12 were females, 97 whites and 3 colored.

The average duration of the symptoms was twenty months, although one patient with asthma suffered for 12 years, and the minimum duration was for six weeks.

It is important to emphasize that in 90% of the cases there was no contact to tuberculosis, while in 9 there was a definite history of contact and in one case the patient was not certain.

The past history in this group is of interest because the majority (49%) gave no history of previous trouble with the lungs. Twenty-two gave a history of pneumonia and of this group four had two attacks of pneumonia. The next in frequency was influenza which occurred in 11% of the cases. The following entities were encountered in the order of their frequency: children's diseases (4%); chronic bronchitis and pleurisy each 3%; asthma 2%; grippe 1%; cold 1%; and symptoms after tonsillectomy in 1%.

An analysis of the etiologic significance of occupation of these patients does not reveal anything definite because it represents a cross section of the normal activities of any group and no etiologic factors can be attributed to the occupation of these pesons. In this group 39 were common laborers; 12% were mechanics; 10% were clerks; 7% housewives; 5% peddlers; 5% without any occupation; 4% painters; 3% cooks and bakers; 3% miners; 1% stone cutters; 2% tailors; 2% upholsters; 2% chauffeurs; 2% carpenters; 1% porters; 1 farmer and one optician.

Of great importance is the fact that in all the patients in this group the sputum was consistently negative. The temperature was within normal variations and the Wasserman was negative in 92% of the cases.

The x-ray study of these patients has been of definite value in eliminating the diagnosis of tuberculosis since 99% of them showed no definite x-ray evidence of pulmonary tuberculosis.

The use of bronchography, diagnostic pneumothorax, tuberculin test and complete blood and

urine study has been resorted to in many of the cases to arrive at a definite conclusion. Broncrography has aided us in making a definite diagnosis of bronchiectasis in 10 cases while a careful study of the sputum revealed actinomycosis in a case which showed very suspicious clinical and roentgen findings of pulmonary tuberculosis. On the other hand a careful study of the patient including a biopsy of the glands from the axilla was necessary to determine the presence of Hodgkins disease in one case. The characteristic history of acute pneumonic onset with delayed resolution and the expectoration of large amounts of foul sputum with typical findings, ellicited the diagnosis of pulmonary abscess in 6 cases.

CONCLUSIONS

The study of these hundred consecutive non-tuberculous patients who were admitted to the tuberculosis sanatorium with the diagnosis of tuberculosis emphasizes the following important points:

1. Not all patients who cough and expectorate and complain of pain in the chest have pulmonary tuberculosis.

2. The referring physician, as well as the sanatorium resident physician, should rule out all other possibilities before making a diagnosis of tuberculosis on all newly admitted patients. In this way a good deal of embarrassment on the part of the patient and the doctor will be eliminated.

3. A complete study of each patient must, of necessity be made on all newly admitted patients and during this period care must be taken to keep these patients from close contact with cases of active tuberculosis. An admission ward where such studies can be carried out in complete separation from the rest of the sanatorium patients is an ideal to be sought after by all sanatoria.

4. All possible methods of study should be made in patients who have a negative sputum and not a clear cut clinical picture of pulmonary tuberculosis. Such studies should include complete blood and urine examination, tuberculin sensitization test, X-ray, basal metabolic studies, the examination of the gastric contents for tubercle bacilli, and examination of the sputum for tubercle bacilli, as well as other pyogenic organisms, including fusospirochetes and fungi.

5. By means of such careful studies we will be able to avoid falling into diagnostic pits and prevent prolonged hospitalization of patients who have no business being in tuberculosis sanatoria. It will be safer and less embarrassing for them if they are turned out as non-tuberculous shortly after admission to the sanatorium.

Experience everywhere has shown that the stage of tuberculosis on admission to a sanatorium is the most important single factor in its prognosis, while recognition of tuberculosis before it has reached the infectious stage is the only certain way of checking the spread of the disease within the family group.

No history of exposure to tuberculosis can be obtained in more than one-half of all diagnosed cases. This fact in sufficient indication that any well-balanced program for tuberculosis control must include other comprehensive diagnostic procedures, such as mass examination of specially susceptible groups. From "The Modern Attack on Tuberculosis" by Chadwick and Pope.

Employers should recognize that workers who have old, arrested and clinically non-significant tuberculous scars in their lungs present almost as little risk as the non-tuberculous workers. In some instances, old experienced key workers have been discharged following the disclosure of such lung scars by plant X-ray surveys. This practice, we are all agreed is unsound — medically and economically wasteful.

Employees who have fallen ill with tuberculosis and are successfully treated should be returned to their old jobs under medical supervision when those jobs are suitable and when medical opinion finds the employee capable of full-time work. Louis E. Siltzbach, M.D., The Milbank Quarterly, Jan. 1943.

IMPORTANT

Send changes of address to 30 N. Michigan Ave., Chicago. Changes received after the 1st of the month cannot go into effect until the following month.



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Sinow, Sidney A., De Witt
Sitney, Julius Jay, Cook
Snyder, Morris, Cook
Sobel, Robert A., Greene
Solbrig, Charles R., Cook
Spadea, Samuel, Cook
Spafford, Howard Everett, De Kalb
Stanbery, George, Fayette
Starcevich, Paul J., Cook
Steiniche, Aage, Livingston
Stricker, Clifford J., La Salle
Strzyz, Joseph J., Cook
Swiontek, Henry S., Cook

Taylor, Jack, Jackson
Terrell, E. E., Edgar
Thompson, Luther C., Cook
Tonkens, Samuel W., Kane
Thompson, Neill Archie, Saline
Tourney, Guy L., Adams
Tovarek, Joseph J., Cook
Townsend, William O., Du Page
Tratt, Elliott M., Grundy
Trimmer, Albert Ogden, Piatt
Twente, Julius, Cook
Twente, George Edward, Alexander

Urban, Sigmund B., Cook
Ushkow, Moe E., Cook

Valencia, Elpidio I., Cook
Verhaag, Joseph E., Cook
Vernon, George H., Sangamon

Wagner, Leonard M., Cook
Waller, George, Macon
Wagner, Mathias A., Cook
Walker, John V., Cook
Walvoord, Carl A., Cook
Weiler, Kenneth J., Cook
Weintraub, Jerome B., Logan
Weiss, Alvin, Cook
Weiss, Manuel B., Cook
Welsh, John W. Jr., Du Page
Wexler, Ralph, Christian
Whitehead, Ira Condict, Will
Wilkinson, George W., Mason
Whitaker, Walter M., Adams
Winn, John P., Jackson
Wiza, Francis L., Cook
Wojtalewicz, Lucian F., Cook
Woodruff, Lewis W., Will
Woolley, Clifton W., Cook

Yacullo, William A., Cook
Zitman, Irving H., Cook
Zurawski, Walter F., Cook

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES BY
Victor Levine, M.D
St. Anthony De Padua Hospital
CHICAGO

THREE CASES OF CORONARY OCCLUSION

CASE 1 — RECENT OCCLUSION WITHOUT HYPERTENSION

Dr. Frank Hrejsa: This 36-year old patient was well until three days before his death. He had been working very hard, however, at several jobs which required marked physical effort. He took sick very early in the morning with a feeling of compression in the chest and a slight moderate pain which extended into both arms. He was slightly nauseated but did not vomit. He did not see a doctor, however, until that evening when he walked into the doctor's office after climbing a flight of stairs.

A diagnosis of cardiac condition was considered most likely and hospitalization was advised and refused.

That night he slept very little and walked up and down most of the night. The next morning another doctor was called and he felt that the diagnosis rested between coronary occlusion and a ruptured ulcer. The first physician saw him later that day and again advised hospitalization. He did not go to the hospital, however, until the next noon, having been sick then 2½ days. The interne considered the same two diagnoses. A surgical consultant was called and he felt the case was definitely not surgical and suggested a diagnosis of pneumonia because of his rapid breathing which was present during most of his hospital stay. Two attempts to type sputum, however, were unsuccessful. His blood pressure, which was 120/70 when first seen by his physician on the first day of his illness later dropped to 85/55 and then rose to 108/60 and 120/60 during his hospital stay. He seemed to be in about the same condition until just about 24 hours after his entrance he became suddenly worse and died.

On two occasions the patient had sugar in the urine but the blood sugar after admission was found to be 129. He was given, however, 40 units of insulin plus glucose and on his last day the urine had no sugar.

He had been perfectly well until this onset. The only fact in his present history which would have any bearing on his illness was that he had been working at some desk job and on account of the war work, he turned to some real physical labor.

Dr. Victor Levine: At autopsy this patient was quite well nourished. The pericardial sac contained about 20 cc. of cloudy fluid with a considerable amount of loose fibrin. Here in this pan is the heart and I think you can see that over the left ventricle there is considerable fibrin even on the fixed specimen. In the apex on the inside there is a small adherent blood clot. The myocardium is soft and purple-gray except beneath the fibrin where it is a lighter yellow-gray. The important finding is in one coronary artery. There were a few fatty plaques thruout both coronaries and in the descending branch of the left coronary artery there was a single calcified plaque which narrowed the lumen; on this plaque there was an adherent purple-gray thrombus which occluded the lumen.

I have an arrow touching the edge of the thrombus so that you can see that that is the site of the coronary occlusion in the anterior descending branch of the left coronary. On the cut surface of the myocardium you can see a number of lighter gray areas of recent infarction. You have to look a little sharply in the fixed specimen but it still shows up very well.

Here in this pan is the pancreas. It weighed 60 gms. and appears entirely normal grossly but is small. It might be a so-called atrophy of the pancreas and he probably had it thru life.

In view of the low blood sugar, he was not a diabetic but because of the small size of the pancreas and the sugar in the urine, he probably was an incipient diabetic. On the other hand a certain amount of gylcosuria has been reported in cases of coronary occlusion; since the cardiac infarct was very large in this case, this may have accounted for the sugar in the urine.

The only other thing of note in the autopsy was an 8 mm. infarct in the left kidney. The only way that I can explain that is that an embolus from the mural thrombus in the heart occurred. This infarct in the kidney may possibly explain the albumen in the urine.

Anatomic Diagnosis. Thrombotic occlusion of the anterior descending branch of the left coronary artery developing on a localized sclerotic plaque; marked infarction of the anterior wall of the left ventricle; marked fibrinous pericarditis over the infarct; marked mural thrombus on the inside of the infarct; small size of the pancreas.

DISCUSSION

Dr. L. A. Holub: This man had a job at a desk pushing a pen but he was also a good workman at carpentry and other lines and his friends kept him busy in his spare time doing odd jobs of physical labor for them which he was always quite ready and willing to do.

Question: How about his history as to alcohol and tobacco?

He was not an alcoholic but he did smoke some.

Question: How do you account for the infarction in the heart?

This was very recent, not more than two days or so.

Question: Any infarction before?

Nothing known of any before. His blood pressure never got above 120/60 during his illness. His heart weighed 420 gms. and he perhaps had some degree of hypertension before he got sick.

Question: Why did he die so suddenly with this condition? A number of people live on with a condition like this.

The fact that he did not go to bed when he became ill probably contributed greatly to his death. He became ill early on a Wednesday morning and did not see a doctor until Wednesday evening and instead of going to the hospital as his physician advised, he went home and walked the floor all night. He did not give himself a chance to recover.

Question: With such a blood pressure as he had and with this history, wouldn't you always suspect a coronary occlusion?

His blood pressure at my office was 120/70. The next day it was about 85/55 at home. After being given the glucose in the hospital, it went up again to 120/60. The consultant asked him if he had any pain in the chest. He closed his eyes for half a minute and did not speak and then he said that he did have some pain in the chest. This indicated that the pain was never very severe or outstanding.

Question: Wasn't this rather an early age for a coronary condition such as he had?

I have known of a patient having this same condition at the age of 32. The medical journals have cited a few cases in children.

CASE 2 — RECENT OCCLUSION WITH HYPERTENSION

Dr. Anton Vlcek: This 62-year old man entered the emergency room on April 22, 1942 at 5:00 A. M. with a history of sudden onset of pain in the cardiac region with pain radiating to both arms. This pain was preceded by a feeling of dizziness and weakness and he gave a history of a previous hypertension.

On examination he had an ashen-gray color, cyanosis of lips and finger tips, marked cardiac pain and dyspnea. A diagnosis of coronary occlusion was made and oxygen and morphine sulphate were given.

There was no paralysis. Heart was slightly enlarged, heart tones good but pulse irregular. Blood pressure was 190/120; temperature, 96.8; pulse, 68; respiration, 24.

The following day he became irrational, got out of bed, refused oxygen and later was stuporous. Temperature began to rise to 101°; pulse, 168; respiration, 32; blood pressure fell to 160/100.

He was unable to void and 1100 cc. of urine were obtained by catheter. Urine showed 4 plus albumen, casts and pus cells. Red Blood Count, 4,500,000; White Blood Count, 10,000; Hemoglobin, 84%. The following day the blood pressure had dropped to 130/80. Temperature rose to 105°; pulse, 170; respiration, 44. He became comatosed and expired about 60 hrs. after admission.

Dr. V. Levine: At autopsy this man was quite well nourished. He had an old right rectus incision which apparently was due to the removal of the gall bladder and appendix. The left pleural cavity contained about 100 cc. of blood-tinged fluid. The pericardial sac contained 50 cc. of clear fluid.

Here is the heart which weighed 650 gms. Over the anterior portion of the left ventricle just above the apex there is a 5 x 3 cm. area with soft muscle covered by a thin layer of fibrin. On cut surface this muscle is a softer, brownish-gray. On the inner side of this area and extending to the left to cover the entire apex there are loosely adherent purple blood clots.

The left coronary artery has a number of fatty and calcified plaques which occupy about three-fourths of the circumference. In the anterior descending branch 2 cm. from its origin the lumen is somewhat narrowed and contains two somewhat loosely adherent blood clots which are 10 mm. long and 1 mm. in diameter. They appear to almost occlude the lumen.

Here are the kidneys which weighed about 250 gms. together. They are very granular and have a number of cysts. Sections show only a benign nephrosclerosis.

Here is the left adrenal. It is buried in fat and I did not attempt to take it out. The only thing about this adrenal is that there were several 3 to 8 mm. yellow nodules. These are cortical adenomas which some persons feel give rise to hypertension.

Anatomic Diagnosis: Recent occlusion of the anterior descending branch of the left coronary with an infarction of the myocardium and a pericarditis; mural thrombi in the apex; generalized coronary sclerosis; marked eccentric hypertrophy of the heart; benign nephrosclerosis; and cortical adenomas of the left drenal.

DISCUSSION

Dr. V. Levine: At the autopsy I did not think the anterior descending coronary artery was completely occluded, although the thrombi were there. But all the muscle in the infarcted area had a definite brownish appearance and must have had its blood supply cut off. The infarction is not nearly as large in the previous case. All I could say was that with hypertension there is a certain amount of vascular spasm. This, plus the thrombi, probably explains the infarction, but I am unable to say that one large vessel had an organic occlusion. The unusual thing about this case, of course, is the degree of hypertension; even after the onset of pain he had a blood pressure of 190/120.

Question: When did the mural thrombus form?

It began to form shortly after the infarction.

Question: In the event this man could have lived, what would have happened to this mural thrombus?

It would have probably become more or less organized and fused with the thin fibrous wall of the heart and then later probably have formed a portion of the wall of an aneurysm.

Question: What caused his coma?

The attending doctor thought he developed something in the brain such as an embolus. The marked coma was not called to my attention at the time of the post and we did not post the head. This man was quite stuporous for at least a whole day before his death so that he may have had an embolus to the brain. On the other hand he had no paralysis and may have had only a toxic degeneration. A bloody spinal fluid would have indicated a hemorrhage.

CASE 3 — RECENT AND OLD OCCLUSIONS

Dr. L. L. Turner: This patient was a 71-year old man who was known to have hypertension. His blood pressure was 230/130 until he had a definite attack of coronary occlusion on June 6, 1938 at which time his blood pressure dropped to 158/90. He made a good recovery at home

and was followed by the means of serial electrocardiograms.

At 7:40 A. M. of his day of entrance he had a precordial pain leading to the left arm and hand and compression about the heart and neck. His blood pressure on entrance was 110/85 and his pulse 112, small and irregular. The heart sounds were low. A tablet of one 1/100 of a grain of nitroglycerin and an ampoule of coramine gave him relief but at 9:15 A. M. the pain recurred. He became pulseless and cyanotic. Stimulation and oxygen had no effect and he died at 10:50 A. M. with a diagnosis of a second coronary occlusion. No electrocardiagram was made during this second attack.

Dr. V. Levine: At autopsy this man was well nourished. Here is the heart which weighed 620 gms. I am showing it from the posterior aspect which is not the usual way but it shows the essential pathology a little better. Here I have an arrow pointing to the right coronary about 4 cm. from its origin where the lumen is occluded by a recent purple and purple-gray thrombus which is adherent to a calcified plaque.

His coronaries in several places had a number of fatty and calcified plaques which occupied about three-fourths of their circumference. Over here in the left anterior descending coronary and just about the same place the other two cases had their involvement, there is a complete occlusion of the lumen. Careful inspection shows, however, that the left coronary had two anterior descending branches, one placed to the left of the other. The left-hand one is the one just mentioned as being completely occluded. The right-hand one divides into superficial and deep branches and is not occluded. I assume that this right-hand branch enlarged greatly since the old occlusion; curiously enough it never really served all the area of involved myocardium on the anterior wall.

On the anterior wall of the left ventricle there is a softened 6 cm. area which protrudes about 2 cm. and is thinned to 5 mm. It is largely replaced by scar tissue and is the area served by the occluded vessel. On the posterior wall of the left ventricle there is an indefinite 3 cm. area which is softened and brown-gray. This area received its blood supply from the right coronary.

Anatomic Diagnosis: Recent thrombotic occlusion of a moderately calcified right coronary artery with a recent infarction of the posterior wall of the left ventricle; old occlusion of the left anterior descending branch with a moderate aneurysm on the anterior wall of the left ventricle; marked eccentric hypertrophy of the heart.

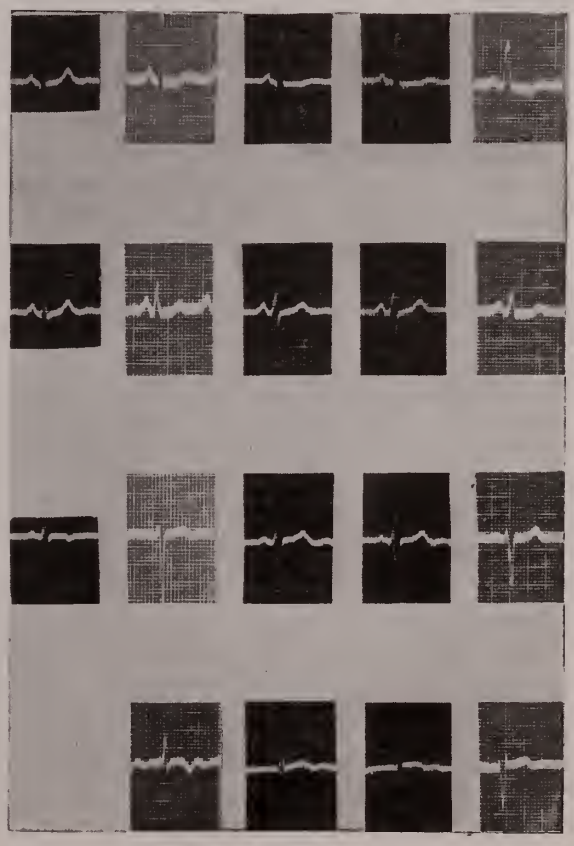
DISCUSSION

Dr. V. Levine: Despite his blood pressure of 110/85 I could say at autopsy that he had a previous hypertension. This is born out by the previous blood pressure reading in 1938 of 230/130.

Dr. F. L. Foran: This man had five electrocardiograms covering a period of eight years. (See illustration). The first one was taken in 1934. At that time Lead IV, which is a precordial lead, was not commonly used and we do not have that particular pattern for comparison. This 1934 electrocardiogram is essentially negative for a man of the age of 63. Despite

Case J. Z.

Age 63	Age 68	Age 69	Age 70	Age 71
1-19-34	6-7-38	3-7-39	2-7-40	1-2-42



the very high blood pressure noted clinically at that time the only evidence produced on this electrocardiogram is the sharp left axis deviation due doubtless to the left ventricular hypertrophy.

The normal T wave of Lead IV is a rather tall upward deflection. You will notice then the sharp contrast presented by the sharp inversion of the T IV in this patient's 1938 record. There is a definite lowering of the T wave in Leads I and II and a slight depression of their S-T intervals but on the whole the changes in the three standard leads are not marked. The major evidence of damage is therefore seen in Lead IV. That is of some interest as it sometimes happens that the diagnosis hangs largely on the chest lead as it did in this instance. This tracing was interpreted as showing major evidences of myocardial damage compatible with a recent coronary occlusion. This type of electrocardiogram is suggestive of infarction involving the anterior surface of the myocardium, although not wholly typical of that lesion. Clinical correlation was found in the character of the attack on June 6, 1938 and the marked drop in blood pressure which succeeded it. Now we find further correlation in the necropsy finding of an old scar and moderate aneurysm of the anterior wall of the left ventricle.

The electrocardiogram taken nine months later at the age of 69 shows further changes. The T waves are lower in Lead I, higher in Lead III, and less deeply inverted in Lead IV. That progressive change tended to indicate the acuity of the attack preceding the earlier record. You will note that the electrocardiogram at the age of 70 is almost identical in pattern with the 1939 record, indicating that stabilization of the pathologic processes had been reached two years later. In 1942, at the age of 71, we again see no significant variation from the 1939 electrocardiogram. These interpretations were in accord with the quiescent clinical course of those four years.

To summarize: this man had tolerated an extreme hypertension for years with no recognizable cardiac impairment of function. At the age of 68 he has an occlusion of the left anterior branch of the coronary artery from which he recovers and maintains a state of health compatible with his years until an entirely separate occlusion involving the right coronary artery was rapidly fatal on April 8, 1942, at the age of 71. Unfortunately the acuity of the attack prevented an electrocardiogram of this final event.

Dr. V. Levine: In the second electrocardiogram, are those changes typical of anterior infarction as far as they go?

Dr. F. L. Foran: Yes. In so far as they go, they are of the anterior infarction type. In the anterior infarction you usually get your material changes in Leads I and IV. The T IV inversion is typical. It would have been more decisive if T I were also inverted instead of showing only a relative lowering. The posterior occlusion shows a Q III-T III pattern, that is a deep Q II and deep T III; usually there is a contrasting positive deflection of T I and off-set of the S-T intervals in these two leads. If we had obtained a record in the terminal attack, I would have expected such a pattern to be superposed on the residual evidences of the anterior infarction.

Dr. V. Levine: It is unfortunate that the last electrocardiogram was not obtained. I have posted a few cases with a clear-cut history and findings of cardiac infarction but did not find anything suggestive of occluded vessels; in this second case there was only a narrowing of the vessel and yet clinically there was an infarction which could be demonstrated post mortem.

Dr. F. L. Foran: There has always been a question as to why occlusion occurs so abruptly. Why does the slowly developing atheromatous degeneration of the artery over a period of years terminate so abruptly in an occlusion? The blood flow shuts off as though a valve were suddenly closed. Is the closure due to the formation of a clot or to some sudden disruption of an atheromatous plaque or to a hemorrhage into the diseased arterial wall?

Dr. V. Levine: Three causes for sudden organic occlusion of the coronary arteries can be given. In order of frequency they are thrombosis, atherosclerosis and embolism. In any of the three the blood flow may be shut off suddenly, as Dr. Foran suggests, as though a valve were closed. It is easy to understand how an embolus can do this but a little bit harder for the other two causes. Cases I and III are examples of

thrombotic occlusions. These developed on sclerotic plaques. If the plaque is ulcerated there is more tendency for a thrombus to occur.

The assumption is that a thrombus is built up gradually. One would assume that collateral coronary circulation would be developed if the narrowing of the lumen were progressive. For some reason, however, the coronary sometimes does appear to do that very efficiently and at that point is apparently where the narrowing gets way ahead of any collateral formation. At any time thereafter a slight increase in the size of the thrombus would close the lumen.

It is even harder to explain a complete occlusion on a pure sclerotic basis and yet it apparently occurs. The narrowing in such instances must be even slower than that produced by a thrombus and yet when the lumen is finally closed completely, its effect is practically identical with that of an embolus causing a myocardial infarction.

As to the question of hemorrhage into the arterial wall, I am uncertain. I do not recall any instance in which I could be sure the primary episode that lead to an occlusion was a hemorrhage without a diseased arterial wall. Theoretically, of course, it could occur.

REPORT A COMPLICATION RESULTING FROM BLAST INJURIES IN WAR

A complication of war injuries which differs from those sustained in civilian life is reported in *The Journal of the American Medical Association* for February 27 by Lieut. Comdr. Walter D. Abbott, Lieut. (j. g.) Floyd O. Due and Lieut. (j. g.) William A. Nosik, M. C., United States Naval Reserve. Their report concerns what they term "subdural hematoma and effusion as a result of blast injuries." It involves the formation of a hematoma (a tumor containing blood) beneath the dura (the outermost of the three membranes that envelop the brain or spinal cord) or the effusion or escape of cerebrospinal fluid into the space.

"Subdural hematoma," the three navy physicians say, "is not an uncommon complication of craniocerebral trauma (injury to the skull and brain), usually the result of a direct blow to the skull, varying in degree and intensity. It has been shown that the hematoma occurs following the rupture of small veins, either between the layers of the dura or between the inner surface of the dura and the arachnoid (the center membrane). . . .

"We have observed a number of blast injuries sustained in action. They are the result of injury by a nearby exploding bomb on ship or land or may be the result of a concussion wave subsequent to a sinking ship or a depth bomb while the patient is in the water. . . .

"It is our opinion that in some instances in which there is no direct blow, a severe concussion from a bomb explosion at variable distance away, will lead to either a small subdural hemorrhage or a sudden rent in the arachnoid, permitting a temporary escape of the cerebrospinal fluid into the subdural space. . . .

"The patients present a history of exposure to severe concussion, loss of consciousness for a period varying from a few minutes to several days, persistent headaches, memory loss and irritability. It is seldom that many positive neurologic (nervous disease) signs are present, and what few are evident, are not pronounced. The most common findings are a slight facial palsy, a transient hemiparesis (paralysis affecting one side) and occasionally a transient change in reflexes. . . ."

The three men say that when such a condition is suspected an x-ray study of the brain should be made and if a hematoma or effusion is present a drainage operation should be performed to relieve the condition.

JEAN GABIN, the French actor, upon his arrival in New York, was asked how the French felt towards the British.

"We are both pro- and anti-British," he said. "Those who are pro-British say each night in their prayers: 'Please, God, let the gallant British win quickly.' Those who are anti-British say each night in their prayers: 'Please, God, let the dirty British win right away.'"

—*Tatler and Bystander.*

Mrs. Brown: "How children's tastes do change."

Mrs. White: "Yes, when my two were small, Johnny loved soldiers and Mary was crazy about brightly painted dolls. Now Mary is crazy about soldiers and Johnny runs after every painted doll he sees."

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

Lt. Chester V. Kiltz, former superintendent of the Martha Washington Hospital, Chicago, is one of the officers of a battalion cited by Maj. Gen. Alexander M. Patch for "Meritorious and conspicuous service during operations against the enemy."

The following members of the American College of Chest Physicians attended the Mid-Winter meeting of the Board of Regents at Chicago on February 14, 1943: Doctors Paul H. Holinger, Jerome R. Head, Richard Davison, Bert L. Dones of Dwight, Julius B. Novak, and Otto C. Schlack of Oak Forest.

According to the Chicago Daily News of March 20th, 1943 "A strange tale indicating that human sacrifices once were made by a sect inhabiting the Sangamon Valley area of Cass County back in 1822 when this section was a part of Morgan County is revealed in the writings of the late Dr. J. F. Snyder of Virginia. The narrative by Dr. Snyder has recently been discovered by Dr. Carl E. Black of Jacksonville who is preparing a biography of the Virginia physician.

McHenry County Medical Society held its Annual Election on December 17, 1942 at which time the following became officers for the year 1943: O. E. Nelson of Woodstock, President; W. F. Gooder of Marengo, Vice-President; L. M. Schuman of Woodstock, Secretary-Treasurer, and C. W. Klontz, McHenry, H. W. Sandeen, Woodstock and L. N. Seelye, Harvard as Censors.

Doctors of Southern Illinois have been extended invitations to attend courses in Defense sponsored by the Universities of St. Louis, Missouri in conjunction with defense organizations. The courses begin on Sunday, April 11th.

COMING MEETINGS

April 13 — Kankakee County Medical Society —Club Rooms, Kankakee, Noon — Frank F. Maple, "Obstetrics"

April 13 — Effngham County Medical Society —Benwood Hotel, Effingham, 6:30 P.M. — M. E. Rose, "Heart Disease"

April 13 — Rock Island County Medical Society —8:00 P.M.

April 15 — Marion County Medical Society

April 15 — Stephenson County Medical Society — Freeport, 6:30 P.M.

April 16 — Will-Grundy County Medical Society — Louis Joliet Hotel, Joliet, 12:00 noon — Arthur R. Colwell, "Diabetes"

April 21 — DuPage County Medical Society — Elmhurst Hospital, Elmhurst — Marcus H. Hobart, "Athletic Injuries and the War"

April 23 — Will-Grundy County Medical Society — Louis Joliet Hotel, Joliet, 12:00 noon — Fred M. Drennan, "Colitis"

MARRIAGES

John W. R. Thoma, Springfield, Ill., to Miss Kathleen Wiggin in St. Louis in February.

Henry M. Wilson Jr., Peoria, Ill., to Miss Eleanor Rain of Jerseyville, Ill., in St. Louis, January 30.

DEATHS

JOHN ANTHONY BADGLEY, Joliet; Rush Medical College, 1880. Retired from active practice. Died suddenly of a heart attack February 20, 1943, at the age of 88.

MAX E. BLOCH, Chicago; University of Illinois College of Physicians and Surgeons, 1900. Had practice in Chicago for over forty years. Died March 14, 1943 at the age of 69 years.

HUGHLING E. BOWERMAN, Leaf River; Bennett College of Eclectic Medicine and Surgery, 1897. Had been ill for three years. Died March 2, 1943 at the age of 69.

HERMAN A. BRENNECKE, Aurora; Rush Medical College, 1896. Founder of the Brennecke Clinic of Aurora and for 23 years medical director of Mooseheart. Died March 20, 1943 at the age of 71.

GEORGE LEROY BROWN, Chicago; Chicago Homeopathic Medical College, 1899. Died in Passavant Hospital, February 28, 1943 at the age of 66.

WALTER MARION CATON, Mason City; Kansas City Medical College, 1901. Practiced medicine in Mason County nearly forty years. Died in his sleep February 16, 1943 at the age of 70.

EDMUND JANES DOERING, Chicago; Northwestern University Medical School, 1874. Colonel in Medical Corps, U. S. Army, 18 years. In 1911 he helped organize the army medical reserve corps in Chicago. During the first World War he served as head of the U. S. medical examining board. He was active in marine hospital work, and was one of the first physicians to develop color blindness tests for navy men. He was the oldest past-president of the Chicago Medical Society when he died March 1, 1943 at the age of 87.

CHARLES M. DOTY, Effingham; St. Louis College of Physicians & Surgeons, St. Louis, 1897. Former coroner of Effingham County. Died of pneumonia March 5, 1943 at the age of 74 years.

FREDERICK G. DYAS, LaGrange; Northwestern University Medical School, 1904. Was professor emeritus of the University of Illinois College of Medicine and a member of the International College of Surgeons. Member of the County Hospital staff for 30 years. Died March 3, 1943 at the age of 69.

WILLIAM MCINTIRE HARSHA, Chicago; Chicago Medical College, 1883. Was professor emeritus of clinical surgery at the University of Illinois College of Medicine and staff surgeon at St. Luke's Hospital. A founder of the American College of Surgeons and member of many medical societies; former president of the Chicago Surgical Society. Died in his home following a short illness on February 26, 1943 at the age of 88 years.

JOHN PRESTON HUFF, Carterville; St. Louis College of Physicians and Surgeons, St. Louis, 1909. Died in February, 1943 at the age of 63.

FLORA CORNELIA MOSS JACKSON, Peoria, Ill.; State University of Iowa College of Homeopathic Medicine, Iowa City, 1895; aged 80; died, January 2, of acute cardiac dilatation.

GEORGE BURT LAKE, Chicago and Highland Park; Rush Medical College, 1902. Lt. Col. in the medical corps in World War I and commanding office of Camp Grant Hospital. He saw army service as a captain in the Philippine insurrection and on the Mexican Border. Publisher of "Clinical Medicine" and president of the Chicago branch of the London Poetry Society. Died March 2, 1943 at the age of 63 years.

OTTO W. LEWKE, Chicago; Northwestern University Medical School, 1889. Member of the staff of the Norwegian American Hospital and once served as coroner's physician. Died March 8, 1943 at the age of 76 years.

HOMER M. LITTLE, East St. Louis; Marion-Sims College of Medicine, St. Louis, 1900. Studied at clinics and medical schools in Vienna in 1908 and 1909. At that time was secretary of the American Medical Association of Vienna. Had practiced in East St. Louis since 1900. Died March 14, 1943 at the age of 72.

WESLEY HAMILTON PECK, Highland Park; Columbia Medical College, New York, 1888. Had practiced medicine for 50 years. Was past president of the Chicago Ophthalmological Society. Had been in poor health for two years. Died February 26, 1943 at the age of 79.

MARTIN A. REICHMAN, Morrisonville; University of Illinois College of Medicine, 1929. Had practiced in Morrisonville for several years. Died February 28, 1943 at the age of 39 years.

CHARLES EDWARD TUCKER, Metropolis; St. Louis College of Physicians and Surgeons, 1892. Served in World War I in the field of X-ray. Examining physician for the Veterans Bureau for many years. Died February 20, 1943 at the age of 74 years.

ARTHUR EDWARD WALTERS, Springfield; St. Louis University School of Medicine, 1905. Specialized in practice of eye, ear, nose and throat. Active member of the Masonic order, Elks Lodge, American Association of Railway Surgeons and several medical societies. Died following a heart attack on March 1, 1943 at the age of 62 years.

BENJAMIN N. WATT, Washburn; Rush Medical College, 1884. Member of the Illinois State Medical Society "Fifty Year Club." Died March 10, 1943, at the age of 88.

CHARLES FRANCIS YERGER, Chicago; Northwestern University Medical School, 1905. At one time was chief surgeon at the Ear, Nose and Throat Illinois Charitable Eye and Ear Infirmary, and assistant professor of Medicine at Northwestern University. Was associate Clinical professor of Ophthalmology at Loyola University School of Medicine; on attending staff, Eye, Ear, Nose and Throat Department and attending surgeon of the Department of Ophthalmology at Cook County Hospital. Former attending physician of the Juvenile Court and the Juvenile Detention Home. Died March 16, 1943 at the age of 64 years.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

SEASONABLE SONNETS
APRIL

The first of April comes with foolish jest,
Returning birds are singing in the breeze;
With trees in bloom are we right fearsome lest
They're blighted by a much belated freeze.
The housewife throws the home in disarray —
A manic cycle coming Spring and Fall —
The grimy handed lads at marbles play,
A million raving fans now greet baseball.
With sunshine bright that alternates with rain
The golfer stands between despair and hope;
Kites sail serenely over field and plain
Defeated politicians sulk and mope.
Events of varied sorts these Aprils bring
To joyously announce that it is Spring.

Professor Paresis petulently peruses the ponderous, preposterous, puerile piffle that presumptuos, pussillanimous, psychopathic present-day poets produce periodically with protrusive prodigality. He predicates that proponents, by protractive and purposeful promulgation, prevent philosophical perception, procreate profanation and presuppose Philistinism. He pleads punitive proscription proclaiming their poems pediculous.

With prudence, patience, perspicasity and passivity he promptly proceeds to provide a perverse populace with pertinent, provocative personal prattle by penning piquant pugnacious and perhaps pernicious paeans of petty peevishness:

I never get up early
Because I get up late;
I never rub hair tonic
Upon my old bald pate;
But there's one thing I hate, sir,
And yet it is my fate,
I have to wear suspenders
Because my girth is great.

I don't chew plug tobacco
For it runs down my chin,
And when I am rheumatic
I soak my feet in gin.
My auto's made of tin, sir,
And I am very thin,
So when we ride together
We make an awful din.

I do not purchase orchids
For sweeties that are mine,
They could not tell an orchid
From sweet potato vine;
They'd only loudly whine, sir,
And swear some and repine,
Because they have kyphosis
All up and down their spine.

I saw a purple heifer
Beside a bright green horse,
And each had pink tail feathers
Which filled them with remorse;
No oats or hay of course, sir,
And that I can endorse,
Remorse is quite sufficient
To fill a cow or horse.

I've never seen a pumpkin
All solid through and through,
And yet I've seen red whiskers
All gray from old mildew,
Devoutly in my pew, sir,
I pray for folks like you,
With chalk and water passion
And blood that flows like glue.

THE PERFUMED LADY

On Easter morn I went to church,
My spirit in elation,
But I was seated next a dame
Who wrecked the situation.

She used a pungent, vile perfume,
It seemed to be its mission,
To thwart my quest for peace and calm
And spoil my disposition.

For every time I got myself
Into a state reposeful,
She gave a wiggle or a squirm
And gave me quite a noseful.

Though not a kindly thing to say
I find myself assuming
That if she'd use a bit more soap
She'd need much less perfuming.

Sophistes the Seer saith, "By the time the average man hath lived long enough to acquire sound intelligence and good judgment all too often the world hath come to look upon him as senile and foolish."



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Book Reviews

How To Teach Nutrition To Children by Mary Pfaffmann, Health Educator, The Boston Dispensary and Frances Stern, Chief of the Food Clinic, The Boston Dispensary. Assistant in Medicine, Tufts College Medical School. Author of *Applied Dietetics,* 1942. M. Barrows and Company, Inc., New York, Price $2.00.

This readable book on nutrition of 224 pages was designed primarily for use by teachers in our schools to aid in the imparting of basic principles of nutrition to children of the intermediate grade levels. The book, however, easily exceeds this fundamental purpose in that the material therein is equally valuable for the school nurse, the physical instructor, the family physician, and last of all, the parent.

The presentation of material is essentially unique and elemental, but at the same time, very comprehensive and easily assimilated, particularly by children to whom the book is primarily directed. The basic principles of nutrition, the essential elements necessary for growth, food, and energy are presented in a very clear manner with a brief discussion preceding each presentation as to the elemental knowledge of the basic foods — protein, fats, carbohydrates and the vitamins. With these preliminary remarks, the authors then proceed to have the teacher enlighten the children as to the services each food constituent performs in the body, and which foods provide the particular essential substance. The child's interest in each basic food and its importance in the health of his own body is brought out by stories, games, and handwork. In other words each chapter on any particular food constituent, brings out the way in which that food serves the body and teaches the child in an interesting, simple way what foods provide this basic substance. At the end of each chapter there is included a simple, easily understandable chart of the common foods and the amount necessary to supply a particular basic substance as protein, fat or carbohydrate, calcium, iron, and the vitamins.

A particularly important chapter for the growing child has to do with the relationship of foods and the proper development of teeth. Another final chapter deals with the story of the grains and the influences of various milling processes on their food value, and finally a chapter on the uses and abuses of candy on child health.

This book can be heartily recommended for any one whose daily task is the imparting of modern information to the coming generation relative to the science of nutrition. The plan of presentation of material is such as to make it intensely interesting to the child, and yet is not too scientific or intricate. With the extreme importance of the role of nutrition in our war effort, and in our coming generations, this book can serve a most useful purpose to aid in the presentation of the facts necessary to maintain and develop higher levels of nutrition and health.

W. M. W.

The Sight Saver. By C. J. Gerling. Cloth. Price $2.00 Pp. 302. Harvest House, Publisher, New York.

This very useful book is written in the form

(Continued on page 30)

CONSIDERATION OF IRRITATION OF THE NOSE AND THROAT BECOMES INCREASINGLY IMPORTANT

FIGURES indicate that smoking is at its all-time peak, and is still increasing sharply! *Not to be overlooked* is the advantage provided by PHILIP MORRIS' distinctive method of manufacture. Researches reported *by thoroughly dependable sources** showed that:

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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60

of dictionary an encyclopedia, concise and yet not too technical to confuse the layman, and at the same time is a ready reference for the medical man and will refresh the memories for those desiring a handy lexicon filled with cross references.

This book will serve to broaden the education of those wishing to know about the principles of eyesight. It is conservative but points out the dangers of various types of lotions, eye remedies and beauty aids.

When one considers that 85% of all that we know reaches us through the eye it is small wonder that the eyes are such a valuable part of the human makeup.

This is an end to conserve good eyesight. It, in one way, could be considered an endeavor to encourage self-medication, but on the contrary it will serve to disseminate information regarding the available and ethical means of correcting the dangers of defective eyes.

The material assembled is alphabetically arranged, in dictionary form in some parts and in encyclopedia form the rest. There is a place for this book in almost every home and it is recommended as authentic, scientific and well worth reading.

W.D.S.

When Doctors Are Rationed. By Dwight Anderson and Margaret Baylons. Cloth. Price $2.00. Pp. 255. Coward-McCann Inc. Publ., New York, N. Y.

This very excellent book of 255 pages endeavors to inform the layman in simple, concise and well written style about what everyone should know about the Medical Profession.

The assumption that sooner or later, due to the present crisis in available medical service, that Doctors generally will be moved from place to place depending upon the community's needs is something to be given serious thought. Considerable information is given regarding the administration of the Procurement and Assignment Service which was organized to provide adequate medical personnel for the armed forces but little is said regarding protection of communities inadequately manned by physicians. This department was organized to protect both military and civilian needs.

Certainly information that will help the layman to intelligently select his medical advisor is timely and a sadly neglected function of the medical profession. Anyone who will follow the suggestion outlined for this purpose will not often go astray into the field of incompetent medical service.

Particularly well written is the chapter on "How to avoid Fakers and Quacks" and is worthy of anyone's perusal.

In the closing chapters of the book is a clear exposition of what the public may expect if regimentation of all medical services is undertaken by the government.

Anyone who will take the time to read this book will surely be wiser and more cautious in medical selection. A chapter contains valuable information on medication, hospitals, various specialities, etc. An excellent volume.

W.D.S.

Disease of Metabolism. Edited by Garfield G. Duncan, M.D., Chief of Medical Service "B", Pennsylvania Hospital; Associate Professor of Medicine, Jefferson Medical College; Philadelphia, Pennsylvania. 985 pages with 158 illustrations including 7 plates in color. Philadelphia and London: W. B. Saunders Company, 1942. Price $12.00.

This excellent work edited by Dr. Garfield G. Duncan, now a Lt. Col. with the Army in the Southwest Pacific, contains 16 chapters. Three of these are contributed by the editor. The others are written by men particularly well versed in the subject discussed.

The chapter on Vitamins and Avitaminosis by Spies is particularly well done. Considering how much this subject and these substances have been exploited, how widely the vitamins are used where there seems scant reason for believing they are indicated, this is a particularly safe, sane and conservative presentation of the subject. There is considerable danger that the present enthusiasm will be replaced by a nihilism which will do more harm than the present inordinate use of the vitamins. Some men are already becoming allergic to their use or to discussions of them, particularly by representatives of pharmaceutical houses.

The chapter on Obesity is as sterile as dis-

(Continued on page 32)



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gynecological division

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cussions of that subject usually are. The subject is presented in a scholarly way and there is a great deal of interesting material presented. It winds up with a dissertation on the need of cooperation on the part of the patient and suggestions of arguments that may be advanced to the patient as to why he should exist on a semi-starvation diet. From the standpoint of treatment it offers nothing new. All reducing diets approach starvation as the ultimate limit. The nearer and more painlessly they come to this goal, the more effective they are in taking weight off the victims.

Duncan wrote a particularly good chapter on Hyperinsulinism in which he offers criteria for separating cases of hypoglycemia due to hyperinsulinism from those due to other causes. Every surgeon who proposes to amputate part of the pancreas as a cure for hypoglycemic symptoms should study this chapter before he operates.

The book is a worthwhile addition to anybody's library.

Clinical Anesthesia. By John S. Lundy, B.A., M.D., Head of Section on Anesthesia, Mayo Clinic; Professor of Anesthesia, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; Diplomate and Member of the American Board of Anesthesiology, Inc.; Member of the Subcommittee on Anesthesia, National Research Council. 771 pages with 266 illustrations. W. B. Saunders Company, Philadelphia and London. Price $9.00.

This fine book on an important subject has been most carefully prepared and edited. It was largely developed as a result of the careful records which the author has kept of many hundreds of anesthetics given which have been of an unusual nature. The foreward was written by the late William J. Mayo who was thoroughly familiar with the manuscript written prior to his death, and who was greatly interested in the forthcoming book. Doctor Mayo emphasized the fact that Doctor Lundy was one of those who have contributed most to the subject and development of anesthesia, especially in relieving those undergoing operations of its terrors.

Unlike many works on this subject, the long history of anesthesia is not reviewed in the first chapter, but the author discusses in much detail the choice of anesthetic agents and the methods of administration for operations on all parts of the human body. Much information will be found in this section by the anesthetist and the surgeon. The uses of local anesthetic agents with the technique of their administration is well reviewed. Whether it be for simple minor operations or highly technical ones requiring special blocks, regional anesthesia, or paravertebral blocks, it will be found in the book, written so that anyone will easily understand the indications as well as the technical phases.

Considerable space is devoted to the subject of spinal anesthesia giving information on the site and rate of injection, doses, total quantity and concentration of the drug used, and also indications and contraindications for its use.

Much valuable information will be found which will be of interest to both the full time anesthetist or the individuals giving an occasional one. The stages and signs of anesthesia, which the several essential reactions for the careful anesthetist to watch, are well outlined in the book, and well worth the cost to anyone interested in anesthesia.

It is the opinion of the reviewed that this is one of the best books yet written on the subject, and should be of interest not only to the trained anesthetist, but also to any physician who must use anesthetics in his work.

Manual of Oxygen Therapy Techniques. Including Carbon Dioxide, Helium and Water Vapor. By Albert H. Andrews, Jr., M.D., Director, Oxygen Therapy Department and Assistant Attending Otoloryngologist, St. Luke's Hospital, Chicago; Instructor in Laryngology, Rhinology and Otology (Bronchoesophagology), University of Illinois College of Medicine; Associate Attending Bronchoesophagologist, Children's Memorial Hospital, Chicago; Former Research Instructor, Department of Physiology and Pharmacology, Northwestern University Medical School. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago. Price $1.75.

The author in his preface states that the proper administration of oxygen therapeutically re-

(Continued on page 34)

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quires attention to many details which are too frequently overlooked. He limits, in this manual, the consideration to that of technique, and this is to be considered as a technical rather than a medical textbook.

With the ever increasing indications for the use of oxygen therapeutically in many conditions, and that of carbon dioxide especially used for the stimulation of respiration it is quite necessary that adequate information as to proper usage should be made readily available. This is the principal purpose of this pocket manual.

Likewise the methods of using helium therapeutically, and water therapy vapor are given proper consideration.

This inexpensive and small book is well written and contains much information for the physician desiring technical information on these important subjects.

A Venture in Public Health Integration. The 1941 Health Education Conference of the New York Academy of Medicine. New York: Morningside Heights. Columbia University Press. 1942. Price $1.00.

The book is composed of several papers which were presented at the 1941 Health Educational Conference of the New York Academy of Medicine. The address of welcome by the president, Malcolm Goodridge, M.D. is first presented, then the introductory remarks of James R. Scott, M.D.

Three interesting subjects pertaining to health education as presented at this conference are published.

1. The Role of Health Education in the Promotion and in the Retardation of Degenerative Disease. Edward J. Stieglitz M.D.

2. Barriers to Health Education. Edward L. Bernays.

3. Health Education by the Private Practitioner, the Voluntary Agency, and the Department of Health. Allen Freeman, M.D.

The authors stress the fact that health education plays a highly important part in the safeguarding of the health of the people. Many types of health education are mentioned. The nurse in her daily work, the physician in his many opportunities to tell the public the principles of health, the health officers with their opportunities to add to the general knowledge,

the teachers, and many others jointly comprise the group to which the people may go to get much needed information.

Realizing the importance of this field and the necessity for the proper enlightenment of the public, the New York Academy of Medicine sponsors each year, a conference before which papers such as appear in this volume, are presented. They should be of interest to many in the field of health education.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

HEALTHY BABIES ARE HAPPY BABIES. A Complete Handbook for Modern Mothers. By Josephine Hemenway Kenyon, M.D., Third Edition. Complete revised. An Atlantic Monthly Press Book. Little, Brown and Company, Boston, 1943. Price $1.50.

A SURGEON'S FIGHT TO REBUILD MEN. An Autobiography. Fred H. Albee, M.D., F.A.C.S., F.I.C.S., Author of "Orthopaedic Surgery" with Dr. Henry Wing Taylor, "Bone Graft Surgery", "Orthopaedic and Reconstructive Surgery", "Injuries and Diseases of the Hip", "Bone Graft Surgery in Disease, Injury and Deformity", "Surgery of the Spinal Column". Forward by Lowell Thomas. Illustrated. E. P. Dutton & Company, Inc., 1943, New York. Price $3.50.

BURNS, SHOCK WOUND HEALING AND VASCULAR INJURIES. Military Surgical Manuals. National Research Council. 272 pages with 82 illustrations. Philadelphia and London: W. B. Saunders Company, 1943. Price $2.50.

CLINICAL DIAGNOSIS by Laboratory Methods (Tenth Edition). By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pa-

(Continued on page 36)

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thology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation) Head of Division on Clinical Laboratories, Mayo Clinic. Tenth Edition. Thoroughly Revised. 911 pages with 380 illustrations, 32 in colors. Philadelphia and London: W. B. Saunders Company, 1943. Price $6.00.

Principles and Practice of Obstetrics. By Joseph B. DeLee, A.M., M.D., Formerly Professor of Obstetric and Gynecology, Emeritus, University of Chicago; Consultant in Obstetrics, Chicago Lying-in Hospital and Dispensary; Consultant in Obstetrics, Consultant in Obstetrics, Chicago Maternity Center; and J. P. Greenhill, B.S., M.D., Attending Obstetrician and Gynecologist, Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff Chicago Lying-in Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. Eighth Edition. Entirely Reset. 1101 pages with 1074 illustrations on 841 figures, 209 of them in colors. Philadelphia and London: W. B. Saunders Company, 1943. Price $10.00.

Blood Substitutes and Blood Transfusion. Edited by Stuart Mudd, M.A., M.D., Professor of Bacteriology, University of Pennsylvania School of Medicine, Philadelphia and William Thalhimer, M.D., Director Human Serum Division, Public Health Research Institute of the City of New York, Inc. Seventy Collaborating Investigators. Charles C. Thomas, Springfield, Illinois. Price $5.00.

Surgical Physiology. By Joseph Nash, M.D., Assistant Professor of Clinical Surgery, New York University College of Medicine; Associate Visiting Surgeon, Bellevue Hospital, New York City; First Lieutenant, Medical Corps, U. S. Army; Assistant Chief of the Surgical Service, Lovell General Hospital, Fort Devens, Massachusetts. Charles C. Thomas, Springfield, Illinois. Price $6.00.

Skin Grafting. Earl Calvin Padgett, M.D., Professor of Clinical Surgery, University of Kansas School of Medicine. Charles C. Thomas, Springfield, Illinois. Price $4.50.

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STUDY INDICATES SULFATHIAZOLE MAY BE A GONORRHEA PREVENTIVE

Encouraging Results Obtained By Giving It By Mouth To An Experimental Group Of 1,400 Soldiers Before Exposure

From results obtained in an experimental group of soldiers, sulfathiazole administered by mouth apears to be an effective preventive against gonorrhea and chanroid, Capt. James A. Loveless and Col. William Denton, Medical Corps, Army of the United States, declare in *The Journal of the American Medical Association* for March 13 in a preliminary report of their investigation.

"Its administration in this experimental group," the two men say, "has not been attended by serious reactions. Sufficient evidence has been obtained to justify further extensive study of this problem."

In the introduction to their report the two officers say that "Our purpose in this study is to determine whether the prophylactic administration of sulfathiazole prevents the development of gonorrhea. The existence of an inordinately high gonorrhea rate among certain troops makes the development of an easily administered chemical prophylaxis particularly important. The following incomplete experimental data are published as a preliminary report because of the encouraging results already achieved. . . ."

The test group in the study consisted of a company of approximately 1,400 Negroes and the control group of approximately 4,000 Negro troops from the same post. In summarizing their report the authors say that "A company of approximately 1,400 Negro troops was given sulfathiazole prophylaxis of 2 Gm. before leaving the fort on pass. Those taking station prophylaxis received no further drug. All others received 4 additional Gm., 2 on returning to the fort and 2 the next morning.

"In this company there has occurred a phenomenal disappearance of gonorrhea and chancroid. Excluding the 'failures' not under the influence of the drug at the time of exposure, the gonorrhea rate dropped to a level of 8 per thousand yearly as compared with 171 per thousand in the control group, and the chancroid rate dropped to 6 as compared with 52."

Commenting on their study the two men say that "It is recognized that this presentation is preliminary in nature. However, it is believed that sufficient evidence is presented to prove that sulfathiazole prophylaxis will prevent gonorrhea and chancroid. It is our opinion that, under certain conditions and in a final form yet to be developed, prophylactic sulfathiazole administration would produce a remarkable decline in gonorrhea and chancroid in the Army. It is admitted that certain dangers are involved in administering this drug, paricularly on a large scale, and that the answer to certain questions has not yet been determined. In view of the magnitude of the venereal diesase problem and its effect on man days, we believe that the risks are justified.

"This experiment is being continued in an effort to simplify the administration of the drug and to obtain further corroborative data. . . . Until such data are available the study is not being extended, nor is it felt advisable that such measures be made routine practice."

The authors point out that the cost of this prophylaxis has been about 10 cents per soldier monthly. In a footnote they point out that since the preparation of their report 20 soliders in the test group were subsequently admitted to the Station Hospital for various illnesses. All of them had previously received sulfathiazole as a prophylaxis. All of this group received sulfathiazole as a part of the treatment for the illness for which they were admitted to the hospital and in the entire group the treatment reponse to the drug was satisfactory and there were no reactions.

War has not changed the basic strategy of tuberculosis control. The cardinal points are: find the case early — institute rest and isolation immediately — treat with modern methods — rehabilitate. War, however, alters the community approach. Sudden growth of war industries has brought armies of new industrial workers and their families into our midst. These have not yet become part of the community pattern. It is essential that these millions of workers be reached in the Early Diagnosis Campaign Against Tuberculosis. Education of the people, in war as in peace, is the driving power of democracy at work. Kendall Emerson, M.D.

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A NEW FORM OF SULFATHIAZOLE CURES A SKIN DISEASE IN A DAY

A Single Application Also Stops The Spread Of Impetigo Contagiosa, A Pus Infection, Philadephia Physician Announces

A single application of a new physical form of the sulfonamide drugs in the treatment of impetigo contagiosa, a pus producing skin infection caused by staphylococci, has, from his experience with the method thus far, been found to cure the condition within a day and to stop the spread of the disease, T. N. Harris, M.D., Philadelphia, reports in *The Journal of the American Medical Association* for February 6.

"Until quite recently," Dr. Harris says, "the therapy [treatment] of impetigo was rarely considered in the medical literature. . . . Since the outbreak of the present war, however, there has been a sharp increase in the frequency of such investigations, and many studies of new methods of treatment of impetigo have been reported in the British literature. This is quite in keeping with the natural history of the disease, since its spread is favored by a deterioration in sanitation and by crowding. . . ."

Dr. Harris points out that in other treatments the percentage of cure ranges from 80 to 100 per cent and the number of days required ranges from a few days to almost a month, usually ten to fourteen days. During this period treatments must be administered often and removal of crusts requires frequent attention.

He says that the basis for a rational improvement in the treatment of impetigo by local application of the sulfonamides was provided by Leslie A. Chambers, Ph.D., and his associates in a report published in *The Journal* for May 23, 1942. Chambers and his associates at that time announced the development of a procedure which reduces the crystal size of sulfathiazole into what they term microcrystals. Dr. Harris says that this method yields a stable suspension of fine crystals of sulfonamide and that the drug remains stable in pure water for at least many months. "This last property presents an important contrast to the behavior of a crushed ordinary sulfonamide compound, which settles and cakes when suspended in water," he explains. "Finally, when allowed to dry, the suspension becomes a fine . . . powder. . . .

"In the present study a 20 per cent suspension of microcrystalline sulfathiazole was used. In treating impetigo locally with this preparation, I employed the following technic: A drop or two of the suspension was poured onto a small gauze dressing. It was found that the water would seep into the few layers of gauze to a greater extent than did the crystals. This would concentrate the sulfonamide crystals on the surface of the dressing, leaving a small white collection of pure sulfathiazole in water, of the consistency of fresh mud. The actual treatment consisted simply in applying the dressing thus prepared to the skin, the bit of sulfathiazole paste being placed in contact with the lesion. The only preparation of the area was washing with ordinary soap and water, with removal of all the crusts. . . . One small dressing was applied to each lesion.

"On removal of the dressing twenty-four hours later, the lesion was always found to be healed. As the dried dressing was removed the residual

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drug would come off the site of the lesion in a dust or a . . . powder. . . .

"Fifteen children from institutional and private practice were treated in this manner, with a total of 293 lesions. . . . The observations made when the dressing was removed a day later were identical in 290 of the 293 lesions treated. . . . Thereafter, no further treatment or care would be given to the site of the lesion. . . . In no instance did any additional lesions develop or appear from the time of treatment of the original ones, either on the subjects or their institutional neighbors. . . .

"The improved results in the treatment of impetigo reported here are due only to the physical form of the agent and its chemical simplicity. Ordinary sulfonamide powders cake on lesions of impetigo. . . . Although most of the lesions were observed twenty-four hours after treatment, there is no evidence that that length of time is required. The last patient of the series, originally exhibiting 23 lesions, had the dressings removed in about sixteen hours, with the usual results. . . . The complete halting of the spread of the disease from the time of treatment, which has been observed thus far, is of considerable practical importance. Taken in conjunction with the single treatment required, this means that the checking and treatment of an epidemic of impetigo, even in a crowded group, is completed within an hour or so of the time treatment is begun. . . .

"Sulfathiazole was used in these studies because of its availability and its effectiveness on both streptococci and staphylococci. Microcrystals of other sulfonamide compounds have been produced and would presumably be as effective against susceptible bacteria."

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NEW SULFONAMIDE PREPARATION FOR INTRANASAL USE ANNOUNCED BY SQUIBB

"Sulmefrin" is the name of a new preparation which E. R. Squibb & Sons has just released for intranasal use in the treatment of acute and chronic sinusitis and infections secondary to the common cold. The active ingredients of the new preparation are stabilized sodium sulfathiazole sesquihydrate and a vasoconstrictor, *dl*-desoxyephedrine.

With the demonstration that it was not always necessary to saturate the entire body with one of the sulfonamides in order to cure or prevent a local infection, various of the sulfonamide derivatives have been tried intranasally. For example, Dr. Frederick Myles Turnbull of Los Angeles reported in the *J.A.M.A.* in April, 1941, his results from the intranasal use of a 5 per cent aqueous solution of sodium sulfathiazole sesquihydrate. Among 47 patients with chronic sinusitis, 40 reported definite symptomatic relief to a greater degree than with any other preparation used. The solution, however, was not stable and had to be freshly prepared each time it was used.

Dr. Turnbull selected sulfathiazole because of its polyvalency as a bacteriostatic agent against Staphylococci, pneumococci and Streptococci which are the dominating organisms occurring in cultures taken from the nose and sinuses.

dl-Desoxyephedrine was selected as a vasoconstrictor because it is compatible in solution with sulfathiazole sodium, whereas ephedrine is not, and because it could be used at a concentration which would shrink the swollen mucosal tissues and promote drainage without blanching and yet not tend to produce unpleasant central side effects such as nervousness, sleeplessness and tachycardia.

Sulmefrin appears as a clear, aqueous, purplish pink liquid, with a slightly aromatic pleasant odor. It has a pH of about 9.0. It is relatively stable to air, light, oxygen and heat. Applied to the nasal mucosa it is practically non-irrating to the great majority of patients. Repeated tests under various conditions upon the nasal mucosa of rabbits have indicated that sulmefrin had no more inhibitory action upon ciliary motility than a control solution of physiologic sodium chloride.

Sulmefrin may be administered by spray or drops, 5 to 10 minims into each nostril, two to four times daily; or by tamponage, 20 minims on each pack, applied for 15 to 30 minutes once a day.

Sulmefrin has undergone an extensive clinical study by qualified physicians over a period of many months. These studies indicate it to be a product of great value for the intranasal treatment of chronic sinusitis and upper respiratory infections. The preparation contains sulfathiazole sodium (sesquihydrate equivalent) 2.5 per cent; *dl*-desoxyephedrine hydrochloride 0.125 per cent; with 2.0 per cent anhydrous sodium sulfite as a preservative. Sulfefrin is supplied in 1-ounce bottles and in 1-pint bottles.

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NEW 'BOMBS' PROTECT SOLDIERS AGAINST DISEASE

America's fighting men in tropical jungles are now armed against malaria and yellow fever with a new "health bomb" that exterminates disease-carrying insects.

The new weapon is an insecticide dispenser that discharges a mist fatal to disease-spreading flies and mosquitoes, but harmless to humans. The six inch metal dispensers — each about the size of a tin can — are called "bombs" by workmen who make them at the rate of thousands a day in an eastern plant.

With the dispenser, the Army hopes to reduce sharply the casualty rate of past wars, in which disease incapacitated as many men as did bullets. The "health bombs" will be discharged frequently in tents and barracks wherever troops are stationed in the tropics, and in the cabin of every airplane — military and civilian — that takes off from a tropical base.

Developed by Young Chemist. Each dispenser is loaded with one pound of a liquid insecticide developed by Dr. Lyle D. Goodhue, a young Department of Agriculture chemist. The insecticide is released as a fine mist that remains suspended in space.

In the 12 to 14 minutes required for complete discharge, one dispenser will fumigate 150,000 cubic feet of space, the equivalent of 240 Army pup tents, or 50 giant bombers. But the spray can be turned on and off as necessary. For example, only three seconds are required to fumigate one pup tent.

Facilities Being Expanded. Manufacture of the dispensers was begun late in 1942, reported J. H. Ashbaugh, Manager of the Westinghouse Electric Appliance Division. Already thousands a day are rolling off assembly lines, and facilities are being expanded to turn out dispensers at a daily rate exceeding 10,000.

The insecticide is effective against bugs and insects, Mr. Ashbaugh said, including flies, mosquitoes, ants and cockroaches. Experiments are now being conducted to establish its effectiveness against other forms of insect life.

First Cottage Patient: "I was out with a nurse last night."

Second Ditto: "Well, cheer up. Maybe soon the doctor will let you go out without one."

DOCTORS ASKED TO HELP IN SURVEY TO LOCATE ALL GRADUATE NURSES

The physicians of the nation are being urged to cooperate in a survey being made to locate all graduate registered nurses in the country, *The Journal of the American Medical Association* points out in its March 13 issue. *The Journal* says:

"The National Nursing Council for War Service, which represents the voluntary, professional nursing organizations in the total war program, urges every physician in the country to lend his help and support to the current nationwide effort to locate all graduate registered nurses. A second national inventory of nurses, a follow-up on the inventory of 1941, was begun in January 1943. To date (February 25) responses from nearly 50 per cent of the nurses in the country have been reported. To help bring in responses from the remaining 50 per cent, physicians are asked to:

"1. Encourage the nurses who may be associated with them, especially the nurses in their employ, to respond without delay to the postcard questionnaires sent to them by the special state agent of the United States Public Health Service in January of this year.

"2. Urge nurses they may know who have not received questionnaires (many physicians' wives who are nurses have failed to receive them) to request cards from the special agent in their states. If they do not know the agent's address, the National Nursing Council for War Service, 1790 Broadway, New York, will forward their requests.

"Information provided by the inventory will furnish the basis of operation for the nursing supply and distribution unit now being formed in the War Manpower Commission. The purpose of the unit, as the name implies, is to determine the availability of nurses for local, state and national emergencies and to aid in the equitable distribution of nurses, so that the nursing needs of the armed forces and of civilians will be adequately met. This distribution will be on a voluntary, not a compulsory, basis. The inventory is being conducted by the United States Public Health Service and has the approval of the National Nursing Council for War Service, the War Manpower Commission and the Health and Medical Committee, Office of Defense Health and Welfare Services, Federal Security Agency."

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SAY THAT ONLY A FEW SPECIES OF SPIDERS ARE TO BE FEARED

Hygeia Writers Explain They Even Have A Utilitarian Value, Their Webs Being Used To Help Us Fight The War

Although most people kill spiders on sight, there are in reality only a few species that are to be feared, Raymond W. Thorp and Weldon D. Woodson, Los Angeles, point out in the March issue of *Hygeia, The Health Magazine.* They even have an actual utilitarian value. For example, they are helping us fight the war, their webs being employed for cross hairs on telescopic gun and bomb sights, range finders and optical instruments.

In defense of spiders, the authors say, it also may be said that for food they prey on insects, many of which are injurious to plants and man.

"Scientific investigation," Thorp and Woodson declare, "reveals that the public errs in being shy of all spiders, and that the naturalist, on the other hand, makes a mistake in lending the impression that no spider should be feared. It will be helpful, therefore, to throw the searchlight on those few spiders with a bite that may result in considerable pain to man, and particularly on one genus whose members have brought great suffering to humankind on every continent.

"The so-called 'banana' spider has often been singled out as a creature with a bite that may

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E. W. STOKES, Medical Director, Established 1904.
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induce pain in man. It is a tropical species which appears in the United States hidden in bunches of bananas. . . . The creature is not related to the large, hairy spiders of Southwestern United States termed 'tarantulas.' It is instead one of the giant crab spiders and belongs to the family *Heteropodidae*. . . . The clinical findings indicate that the bite of this spider may be sharply painful but not dangerous. . . .

"The tarantulas of the United States have earned an awesome reputation. Scientists and laymen for many years held the opinion that such huge spiders surely possessed venom with a potency dangerous to man. This was negatively answered when human beings in several instances induced the creatures to bite them, and the resultant pain proved to be equal to about that of two or three bee stings. . . .

"Within the United States sixteen species of trap-door spiders have been discovered, and eight of these are recorded exclusively from California. . . . Naturalists marvel at their ability in excavating a burrow, lining it with water-proof silk and closing it with a hinged door. Scattered, unverified reports through the years mention much suffering, and even death, resulting from their bite. Scientific investigation nevertheless has discounted this conclusion. Symptoms resulting from their bite under normal conditions will be local, and they as a class cannot be considered as greatly harmful to man.

"Most widely distributed of the spiders dangerous to man are those which belong to the genus *Latrodectus*. They are to be found in each of the continents, and for more than a century well founded reports have been recorded concerning the suffering from their bites. In the United States there has been reported in California *Latrodectus geometricus*, and in each of the forty-eight states *Latrodectus mactans*. This last is the ill-famed black widow spider. The symptoms from its bite strikingly resemble those resulting from the bite of its prototypes throughout the world.

"A cause for bewilderment to many people has been the fact that some victims of the bite of the black widow experience no ill effects, others only mild effects and still others agonizing pain. Most significant reason for this is that the striated (striped) muscles which sur-

(Continued on page 48)

Discourage
THUMB SUCKING AND NAIL BITING



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EASY TO USE
APPLY LIKE
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OMAHA, NEBRASKA

SPIDERS (Continued)

round the poison glands of the black widow spider function only when she chooses. She may thus inject her fangs into a human being and deposit no venom, or again, may secrete the maximum contents of her poison sacs.

"The banana spider, various species of tarantulas and their relatives, the trapdoor spider . . . have all caused varying degrees of injury to man. Only these and spiders of the genus *Latrodectus,* of which the black widow is a heralded member, need to be feared, and one may, as the naturalists have entreated, delight in studying the habits of all other specimens. . . ."

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WANTED: Location by experienced physician and surgeon just over draft age. In town of 1000 or more or in small clinic. Central to Southern Illinois preferred. Box 108. Illinois Medical Journal, 30 N. Michigan, Chicago.

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FOR SALE: 100 Milliamperes X-Ray apparatus. Mattern, latest model, transformer, control cabinet, combination tilt table, spot-film apparatus. Has been used but few dozen times. This kind of appartus frozen. Called to military service. $3,225.00. Dr. M. E. Staehle, 7124 Natural Bridge Road. St. Louis County, Missouri.

EYE, EAR, NOSE & THROAT. For Sale. Established 28 years. Industrial and defense area. 75 mile trade territory. Doctor died Oct. 24th. Wonderful opportunity right man. County seat, office on public square. Office intact. Mrs. Lucile Woodside, 109 N. Monroe, Marion, Illinois.

WANTED TO BUY, used medical equipment: — microscopes, physiotherapy apparatus, furniture, instruments, etc. Write Medical Arts Supply Co., 5912 N. Drake Ave., Chicago, Ill.

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THE SALVAGE JOB

Getting every ounce of critcially needed waste materials into the flow of manufacturing implements of war is the important task of the Salvage Branch of the Conservation Division, WPB. "Junk" is something that every man, woman, and child must now treat with respect if we are to "get in all the scrap" so vitally needed.

Paul C. Cabot, Deputy Chief of the Conservation Division, declared recently that "if our production schedule is to be maintained 17,000,000 net tons of purchased iron and steel scrap are needed to give the iron and steel furnaces sufficient inventories to prevent shut-downs during the months to come."

To treat this problem, the WPB through its Salvage Branch approaches the problem of "getting in the scrap" in four major ways:

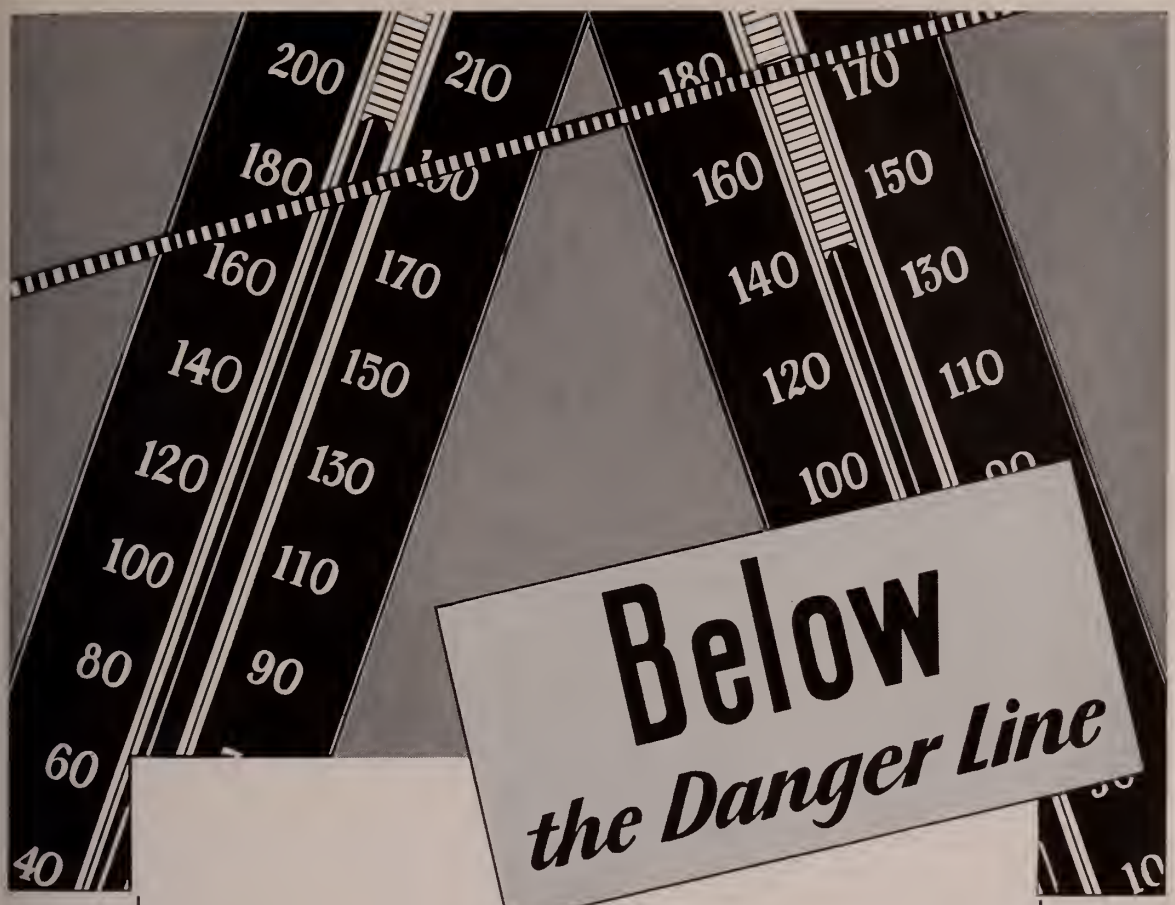
First — An Industrial Salvage Section is charged with the responsibility of educating industry to salvage all critical waste materials, to speed up the return of these materials into the war production stream, and to help industry to use established channels of disposal. Scrap in this effort is classified as "dormant" and "production." "Dormant" scrap is defined as obsolete machinery, tools, equipment, dies, jigs, fixtures, etc., which are unsuitable for current or future use because they are broken, worn-out, dismantled, irreparable, or in need of parts no longer available.

Second — A General Salvage Section is charged with establishing salvage programs in local community areas, appointing local committees and directing their activities. Their salvage operation extends to every household including farms, all retail stores, garages, hotels, small businesses, and the smaller industrial organizations in rural areas. Some 12,500 state and local salvage committees are aiding in this job.

Third — The Special Projects Salvage Section is responsible for salvaging large accumulations of secondary and waste materials that are tied up due to financial, legal, political, and other reasons which impede the work of other Sections in the normal course of operation. Special projects include such things as abandoned railroads, streetcar lines, factories, bridges, etc.

Fourth — The Automobile Graveyard Section, now operating through 254 field representatives, has the job of seeing that some 20,000 graveyards in the country function as producing units. It is essential to keep these automobile graveyards as operating scrap-producing units. It is mistakenly believed by most people that the best results can be obtained by the elimination of automobile dumps. But in view of the fact that anywhere from a million to two and a half million cars come off the roads annually to enter graveyards, it is essential that such places be kept in operation as an important continuing source of scrap metal supply.

—*N. Y. State Journal of Medicine*



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Tablets NITROBAR Comp.

Bismuth Subnitrate	5 gr.
Phenobarbital	1/8 gr.
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Suggested Dosage: One or two tablets three times a day.
How Supplied: Bottles of 100, 500 and 1000.

*Tablets NITROBAR Comp. are not contraindicated in cases of nephritis, renal insufficiency, or in the presence of acute inflammation.

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The
ILLINOIS
Medical Journal

VOL. 83 NO. 5

May, 1943

In This Issue

Official Program

ANNUAL MEETING ILLINOIS STATE MEDICAL SOCIETY
PALMER HOUSE, CHICAGO, MAY 18, 19, 20, 1943

Treatment of Shock From War Wounds

Recognition and Treatment of Surgical Shock

(See page 27 for Table of Contents)

OFFICIAL JOURNAL OF THE ILLINOIS STATE MEDICAL SOCIETY

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Spanish Proverb

...and Petrogalar makes it easy to establish "habit-time" for bowel movement

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Try Petrogalar on your next group of patients.

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● Inexpensive therapy—some menopausal patients may be kept symptom-free for as little as 10 cents a day with Dimenformon.

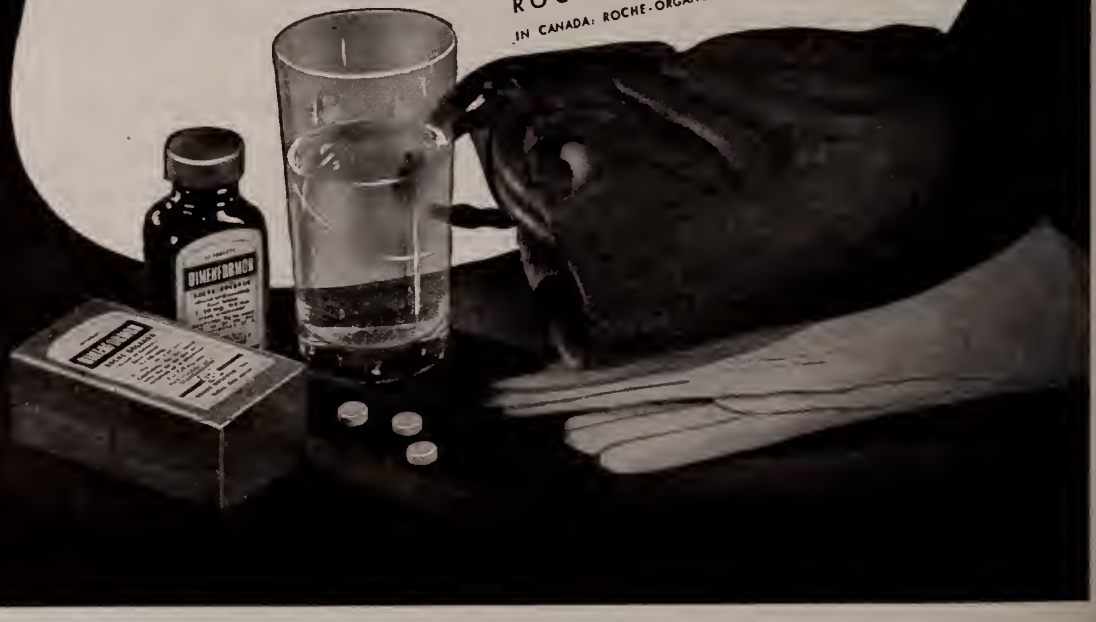
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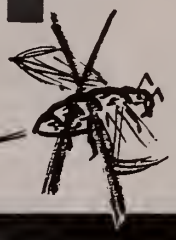
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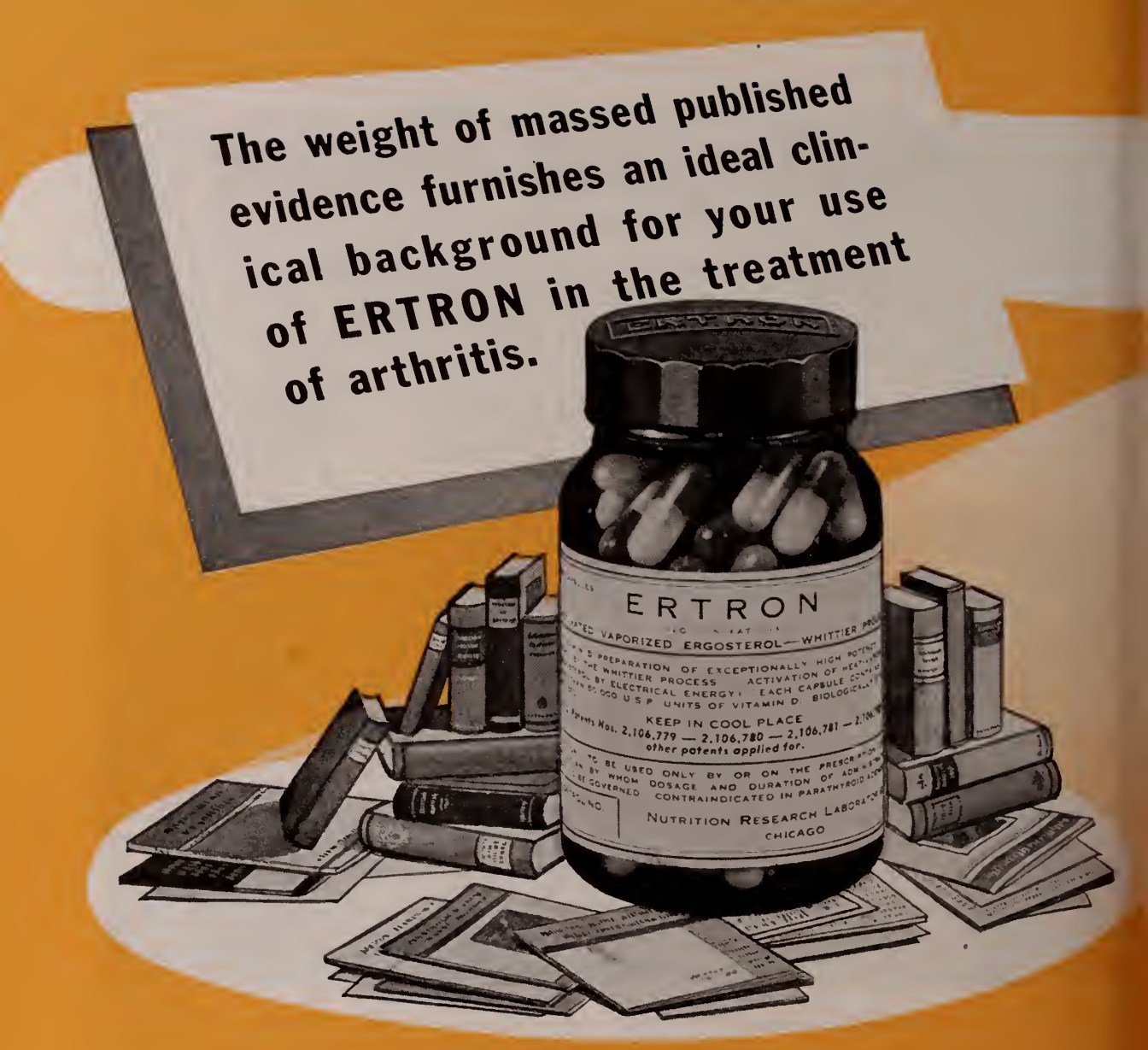
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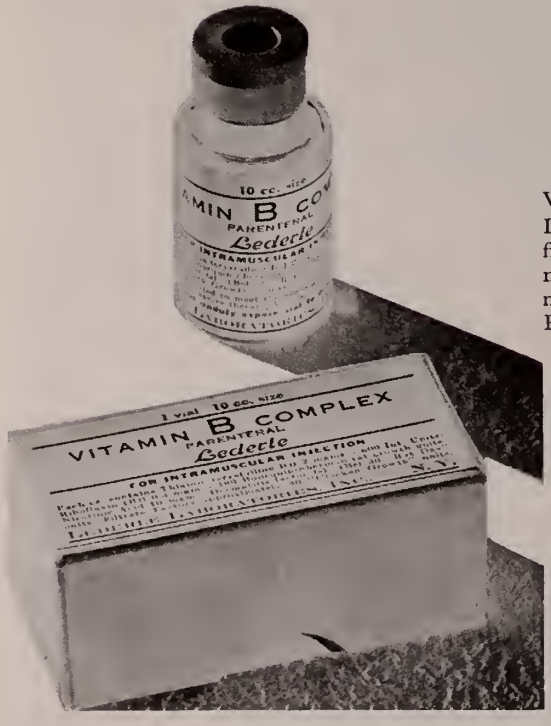
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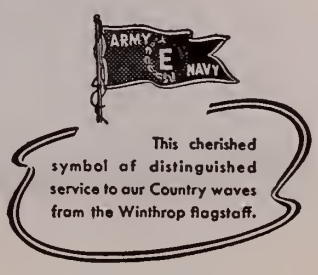
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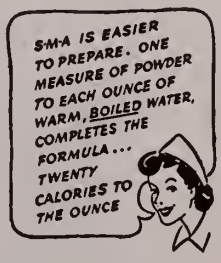
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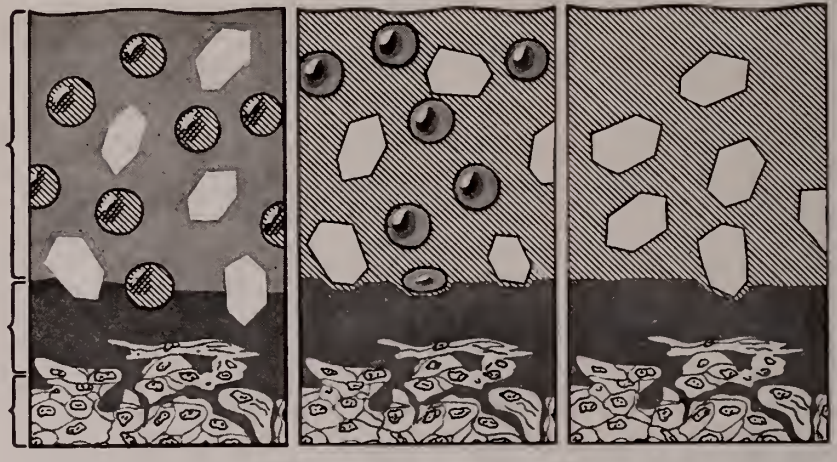
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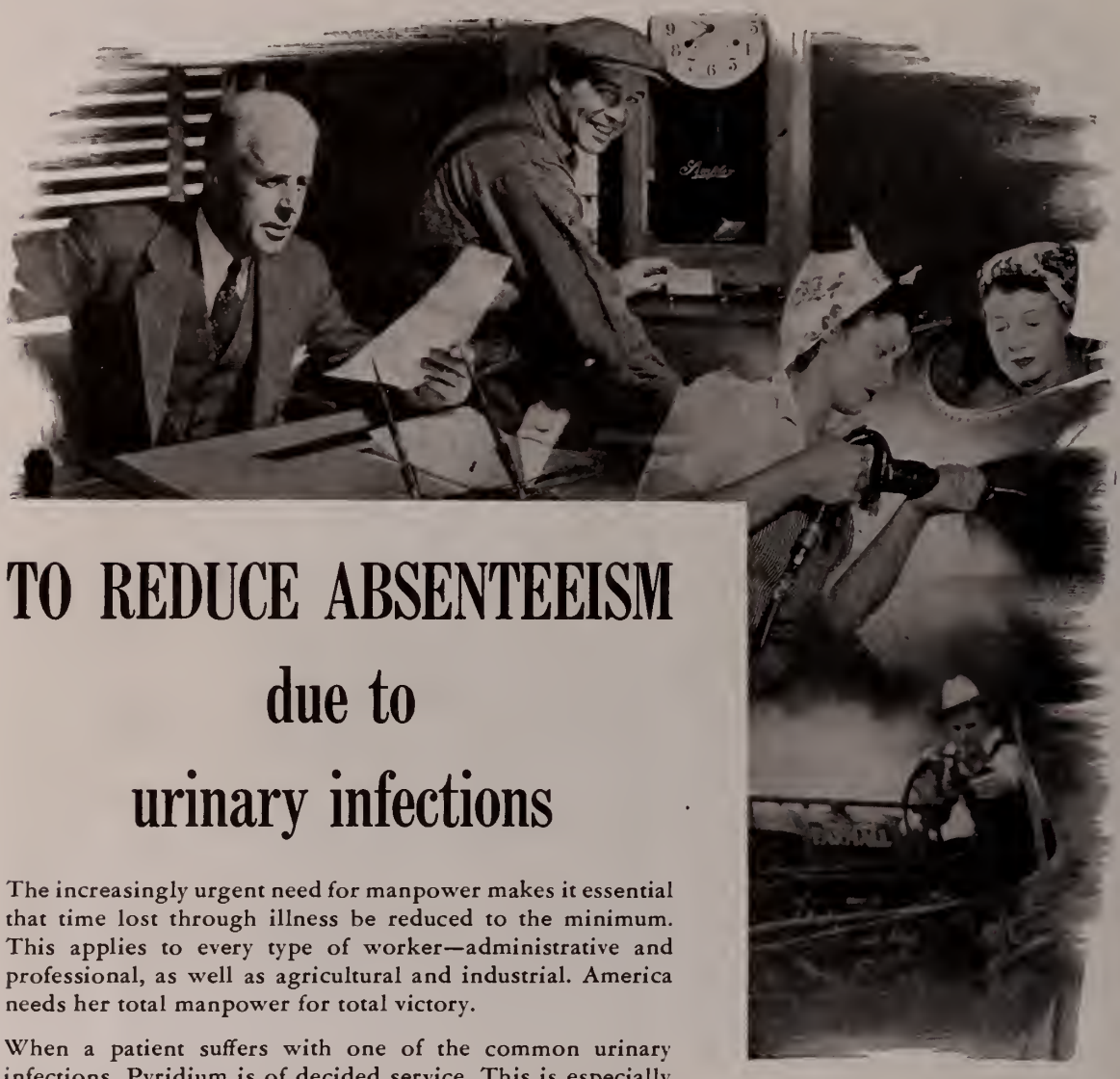
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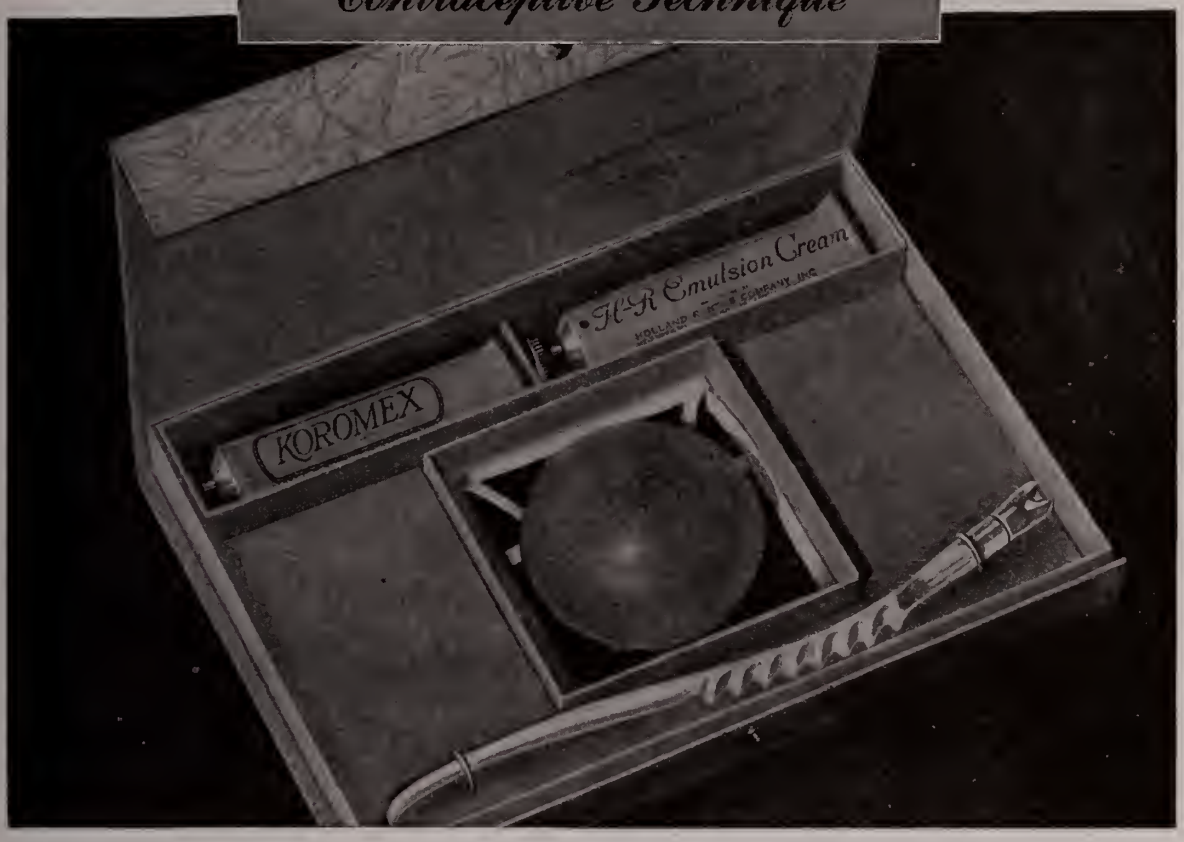
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The Illinois Medical Journal

May, 1943

VOL. 83, NO. 5

Official Journal of the Illinois State Medical Society

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Editorials

WE'LL SEE YOU AT THE ANNUAL MEETING

The official program for the 1943 annual meeting to be held at the Palmer House, Chicago, on May 18, 19, 20, is published in this issue of the Journal. Even though some three thousand Illinois physicians are now in service with the armed forces, the program has been arranged to make it particularly interesting to all physicians remaining in civilian practice. More time is to be devoted to joint sessions with members of all sections participating, and there will no doubt be many physicians present in uniform.

Although a number of important meetings are to be held on Tuesday morning, May 18th, the meeting opens officially at 1:00 p.m. Each section will hold individual meetings that afternoon. Among the morning sessions are the meetings of the Central States Society of Industrial Medicine and Surgery, with the Chicago Society of Industrial Medicine and Surgery; The Physicians' Association, State Department of Public Welfare; Illinois Society of Pathologists; and the Illinois Chapter of the American College of Chest Physicians.

The Oration in Medicine will be delivered Tuesday night by Dr. James E. Paullin, President-Elect, American Medical Association, Atlanta, Ga., and he will have a message that will be of intense interest to all physicians.

The annual Secretaries' Conference will be scheduled as a dinner meeting and will be held Tuesday evening, May 18th, at 6:00 o'clock. An interesting program has been arranged and this should be of interest to all society officers as well as to the members. The Veterans' Service Committee will hold their annual dinner conference on Tuesday evening also, and their program will be of much interest at this time.

Wednesday and Thursday morning sessions are scheduled as joint meetings with all sections participating. A glance at the programs arranged for these joint sessions will show how carefully each has been planned, and they will be of interest to all physicians present.

The Oration in Surgery will be presented by Dr. W. D. Gatch, Dean and Professor Surgery, Indiana University School of Medicine, and will be delivered at 11:00 A.M. Wednesday, May 19th.

The annual luncheon conference of the Fifty Year Club has been arranged carefully and is scheduled for Wednesday noon, May 19th. A short and snappy program will be presented and it is hoped that many members of this important club will attend.

The Maternal Welfare Committee likewise will hold a luncheon conference at noon on Wednesday and a short program will be presented relative to the work which has been done and is being contemplated by this important committee. Several alumni groups will also

have their luncheons Wednesday noon, and details will be found in the official program.

Wednesday evening, May 19th, the annual President's Dinner will be held in the Grand Ball Room of the Palmer House. This dinner honoring the retiring president of the Illinois State Medical Society (with our past-president as guests) will be an outstanding feature of the annual meeting. Colonel Carlos P. Romulo, the last man off Bataan, will give an unforgettable message to those prosent. Colonel Romulo widely known as both a speaker and author, was a member of General MacArthur's personal staff, and was closely associated with the General for some little time while in the Philippines, then later in Australia.

The usual fine array of both technical and scientific exhibits will be displayed in the large exhibit hall of the Palmer House. It is hoped that everyone at the meeting will devote as much time as possible looking over these exhibits which have been so carefully arranged to show what is being done within the profession, as well as for the medical profession. Great care has been used in the selection of both types of exhibits, and complete details will be found in the official program.

The Woman's Auxiliary to the Illinois State Medical Society will likewise have their programs presented in the Palmer House, and in addition to the several official functions which have been scheduled, a fine program of entertainment has been arranged for all ladies who are present during the annual meeting.

The House of Delegates will hold the usual two meetings, the first at 3:00 p.m., Tuesday, May 18th, and the second on Thursday morning, May 20th. There will be many important subjects presented before the House of Delegates, all of which will be referred to proper reference committees for study and subsequent reports back to the House at the second meeting.

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Society proceedings and news items and changes in the mailing list to Managing Editor, 30 N. Michigan Ave., Chicago.

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THOSE INTENDING TO BE PRESENT AT THIS IMPORTANT WAR MEETING SHOULD MAKE HOTEL RESERVATIONS BEFORE ARRIVING IN CHICAGO.

WHAT SHALL WE PUBLISH?

One of the problems of an editor of a medical journal in war time is the selection of proper material to appear in print. Many articles are received for publication, many of great interest to all readers, while others represent a limited view point or the expression of a particular hobby on the part of the individual physician. Occasionally conclusions are placed on paper after certain remedies or procedures have been tried on a limited number of patients, and the article, although well presented, may be subject to criticism for this reason.

Many manufacturing concerns dealing in supplies used by members of the medical profession have been awarded the coveted "E" by the Army and Navy. Frequently long articles are submitted for publication telling about the ceremonies at the time the award was made. Usually mention is made in the Illinois Medical Journal, although we cannot publish the material as submitted.

Releases are received each day from various Governmental agencies for publication, ranging from directives governing the selection of physicians for military service to releases dealing with war gases from the Office of Civilian Defense. Efforts have been made to publish those of greatest interest, but frequently they must be presented in abstract as the original copy may cover a dozen pages.

The Illinois Medical Journal has a capable Journal Committee and an Editorial Board which meets frequently to discuss the policies relative to the publication of these articles. With the present-day limitation of paper stock and frequent warnings as to what may best be published, great interest on the part of those responsible for the approval of papers and other data received for publication has developed relative to short papers on timely subjects. It is not so much the fact that fractures may be treated in a dozen or more ways, each apparently equally satisfactory in the hands of those using certain methods, but the paper giving the minimum requirements in the treatment of fractures and telling concisely how various types of fractures may be properly handled without the use of elaborate and intricate appliances, is usually preferred.

The use of the sulfonamides in medicine and surgery, and the methods of their administration are always of great interest. Here again some authors submit papers pertaining to the use of these drugs in a few cases, and with definite conclusions, may not be accepted for publication.

As has frequently been stated, the papers which are of greater interest today, are short papers with a minimum or no bibliography, and which immediately get down to basic facts through the elimination of the usual preliminary paragraphs of a historical nature.

The Illinois Medical Journal desires good papers written on subjects of present day interest. Papers of this type should have no trouble being approved for publication. It is the desire of those responsible for the selection of material to be published, that the papers be short, to the point, and thereby permit the publication of more papers on a wider variety of subjects in each issue.

MAKE YOUR HOTEL RESERVATIONS!

On account of the overcrowding of the city hotels, all physicians intending to be present at the 1943 annual meeting of the Illinois State Medical Society to be held at the Palmer House, Chicago, May 18, 19, 20, should make their hotel reservations at once, and not wait until arriving in Chicago.

There should be ample room for all if reservations are made in advance, and if the hotels have the opportunity to do their own planning.

This is likewise true regarding railroad reservations, and it is advisable to make your reservation for the desired accommodations on trains as early as possible.

Pulmonary tuberculosis should always be in the mind of the physician when a patient complains of chronic hoarseness or sore throat. The chief misleading factor in the diagnosis is the apparent well being of the patients whose latent pulmonary and systemic signs were masked by laryngeal symptoms. Jos. C. Donnelly, M.D., Jour. of Amer. Med. Assn., Oct. 31, 1942.

Correspondence

THE PRESIDENTS' DINNER

Plan now to attend the Annual Dinner of the Illinois State Medical Society in the Grand Ball Room of the Palmer House on May 19th at 7:00 P.M. Colonel Carlos P. Romulo of the Philippine Army has been secured as speaker.

Throughout the Battle of the Philippines, Colonel Carlos P. Romulo of the Philippine Army fought side by side with General MacArthur as his aide-de-camp and friend. He describes that heroic struggle from the inside, with an accuracy possible only to a member of General MacArthur's staff and a vividness possible only to a brilliant journalist trained in observing the human as well as the military factors. He relates how the courageous leader of the Filipino people, President Manuel L. Quezon lived in the tunnel in Corregidor and then when weakened and ill, left for one of the unoccupied provinces in the Visayas, and later for Australia and America.

Colonel Romulo's escape from Bataan — the last man to leave that fateful spot before the surrender of the Filipino and American forces — in a decrepit old plane that had literally been fished from the bay and an obvious target for anti-aircraft guns and his dramatic flight to Mindanoa and from there to Australia to join MacArthur, are among the most exciting stories to come out of the War in the Pacific. But, it is not his own experiences, but those of the American and Filipino soldiers who died on Bataan and on Corregidor that he wants to tell, to impress upon the heart and minds of Americans here at home, so that we will come to understand the full significance of their dying.

As their comrade in arms, as a Filipino officer exposed to the same dangers and privations, Colonel Romulo tell how those men fought and died. He describes in unforgettable terms their courage and heroism against insuperable odds. No one can ever fully appreciate just how tragic and how inglorious was this first defeat in American history until he has heard the inside story of Bataan and Corregidor from the lips of this distinguished and trusted aide to General MacArthur.

Colonel Carlos Romulo was born in the Philippines, educated at the University of the Philippines (A.B., 1918) and Columbia University (M.A., 1921). He also holds an honorary LL.D. degree from Notre Dame (1935). Until the Japs came, he was the Editor and Publisher of the D-M- H-M newspapers and was Managing Director of two radio stations in the Philippines. A series of articles reporting his observations on a tour through China, Burma, Thailand, French Indo-China, British Malaya and the Dutch East Indies on the eve of Pearl Harbor, in which he predicted the imminent outbreak of war in the Pacific and exposed the fifth column activities in these countries won him the Pulitzer Prize for the best interpretive correspondence of 1941 — the first time this coveted journalistic award has ever gone to outside continental America. These articles were published in his own newspapers in the Philippines and in leading American newspapers.

As a speaker Colonel Romulo is perhaps even better known to Americans than as a writer. He was Vice-President of Rotary International and

has visited America often. In 1940, at the Rotary International Convention in Cleveland, Ohio, an audience of 14,000 stood up and cheered him in what was one of the greatest ovations ever given a speaker there. When he addressed the National Press Club in Washington, D. C. in July, he was accorded a standing ovation. Since his return to America on his present trip, he has spoken before every kind of audience and has everywhere made a profound impression.

The dinner is informal which means street clothes. Anyone other than those at the speaker's table wearing formal dinner clothes will be fined a $25 War Bond.

James H. Hutton, M.D.,
Chairman, Presidents' Dinner Committee.

PERSONAL HYGIENE IS MARINE WEAPON AGAINST TROPICAL DISEASE

(The following article was written by Staff Sergeant Samuel E. Satvisky, 60 Grove Street, Chelsea, Massachusetts, a Marine Combat Correspondent)

Somewhere in the South Pacific — The Japs may have withdrawn but the disease-exis which makes a bastian of these "tropical paradises" stubbornly hems in our jungle fighters.

The battle with disease is incessant. There are no breathers between engagements and the continuous, pitched battle against numerically overwhelming odds cannot be completely won but must be held at bay.

Cardinal tenet acquired by the Marines in their intensive training for tropical fighting is personal cleanliness. Medical and line officers repeatedly emphasize the necessity of keeping the body and clothes clean.

The battle is not peculiar — to the Marines. All the fighting forces must meet and solve the problem. But, because they are a swift, mobile force and thus can carry only essential equipment, the problem for them is more acute. Usually they carry but a single change of clothes — dungarees, underwear and socks. They may be forced to sleep in their clothes, a poncho between them and the damp soil, a pup tent sheltering them from the rain.

The way to cleanliness under such conditions, according to Navy Lieutenant Bruce W. Milligan, of Jacksonville, Ill., is soap.

"When we bivouac over night, the men soak and wash the clothes they wore that day when possible in boiling water. They are chiefly particular about socks and underwear.

"We try to assure a bath a day for the men, a difficult task at best, since we're on the go and must depend on whatever water we can find or catch in the rain.

"With soap and water applied daily we can put up a successful fight against the fungi that fester the skin and open the path for infection. Soap is also the chief weapon against flies which menace health in the tropics. Men have been inculcated with the wisdom of sterilizing their mess gear in scalding soapy and clear water before and after eating.

"Malaria is a tougher nut to crack, but with this problem, too, great progress has been made. Atabrine has proved its value as a substitute for Jap-controlled quinine, and the men take daily doses. Every jungle fighter is equipped with mosquito net, a practical safeguard against the malaria-carrying mosquitoes of the tropics.

"Besides atabrine, the daily menu includes salt tablets and vitamin concentrate to supplement field rations. When possible, the medical officers purify the drinking water by chlorination, but for emergencies, the men carry a tube of iodine to sterilize their own canteens.

"In the tropical humidity, cuts are slow to heal, organisms settle faster in the wound and cause it to fester. Such a common infection like athlete's foot, something you joke about in the states, will immobilize the infantryman unless treated. A coral cut suffered in landing operations or during swimming requires immediate attention or the Marine becomes a casualty.

"We know that disease is as much an enemy of the Japs as us, and we realize that the better we resist the disease axis, the better we fight the Japs. The men know that it is not enough to keep their rifles in perfect condition; they know that equal care must be given their bodies."

IOWA, ILLINOIS ASSOCIATION ANNOUNCES MEETING

Editor, Illinois State Medical Journal,
Monmouth, Illinois.

The annual meeting of the Iowa and Illinois Central District Medical Association will be held

Thursday, May 27, 1943, at the Watch Tower Inn, Blackhawk State Park, Rock Island, Illinois.

4 P.M. Major Lindon Seed, chief surgeon at Camp Grant, Illinois, and formerly associate professor of surgery at the University of Illinois, will speak on "The Use of Intravenous Fluids and Blood."

5. P.M. Dr. Italo Volini, professor of medicine at Loyola University school of medicine will speak on, "Clinical Observations on Heart Disease."

6 P.M. Dinner will be served at the Watch Tower Inn, followed by a social hour.

8 P.M. Dr. Charles F. McKhann will speak on "Progress in the Control of Communicable Diseases", illustrated with motion pictures in color.

As this is the annual meeting, there will be election of officers following the dinner.

James Dunn, M.D.
Secretary

CONVALESCENT SERUM FOR EYE DISEASE

"The present widespread occurrence of epidemic keratoconjunctivitis (the eye disease of shipyard workers now sweeping the country) in important industrial areas and the failure of all types of therapy (treatment) justify the focusing of attention on the use of convalescent serum as a possible means of treatment," Alson E. Braley, M.D., and Murray Sanders, M.D., New York, declare in *The Journal of the American Medical Association* for March 27.

In their preliminary reports, Drs. Braley and Sanders say that "In the present group of 10 cases, 9 showed striking clinical improvement a short time after intravenous (into a vein) injections of human convalescent serum were given. . . ."

From his experience with animals, and with a few patients treated with suspensions of sulfanilamide or sulfathiazole in soybean oil, D. Murray Angevine, M. D., Wilmington, Del., reports in the current issue of *War Medicine* that "I believe that this method of therapy (treatment) deserves a further trial in chronic osteomyelitis (inflammation of a bone) and in other types of infected wounds."

CREATE A TERM DESCRIBING THE INJURIES PRODUCED BY UNDERWATER EXPLOSIONS

"Forces generated by underwater explosions incidental to marine disasters due to operations of war have produced physical injuries which we call the syndrome of 'hydraulic abdominal concussion.'" Lieutenant Commander Lionel S. Auster and Lieutenant Commander John H. Willard, Medical Corps, United States Naval Reserve, report in *The Journal of the American Medical Association* for March 27. The outstanding feature of this condition is the forceful compression of the abdomen simultaneous with the entrance of sea water into the bowel through the unprotected lower opening of the intestines.

The two men explain that " 'Hydraulic' refers to the forces of water in motion. 'Concussion' is used in preference to the word 'compression' or any other descriptive word because we feel that the results of this unique accident are similar to those which occur in the brain or other tissues when subjected to sudden force against resistance. . . .

"The explosion (from a depth bomb) may give some manifestation in the air by blowing surface water up, but its chief effect is attained by the sudden commotion caused within a radius of several hundred yards. The surrounding water is set in motion in all directions, producing currents powerful enough to weaken the seams of steel sheathed vessels within its zone of effectiveness. Men trapped aboard a sinking vessel or, more usually, those who have abandoned ship by going overboard clothed in life jackets and swimming free or clinging to life rafts or bits of floating wreckage are subject to the water pressures generated. If the man is within a radius of 100 yards of the exploding charge the chances of survival are very slim, although we have seen cases in which a distance of less than 100 yards was reported with eventual rescue. . . ."

The authors say that examinations of the abdomens of such victims have shown the chief injuries to be intestinal hemorrhages and in some instances perforations or rents in the large bowel. The mortality rate is very high. They say that their experience has shown that supportive treatment without operation produces the best results.

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

THE RETURN OF THE MEDICAL OFFICER TO PRIVATE PRACTICE

The subject assigned is, "The Return of the Medical Officer to Private Practice." Recently, I was asked to talk to a group of doctors, dentists, pharmacists and lawyers on the future of the professions. I stated then and here repeat that the future of the professions will be the future of America. It is obvious that we cannot have one plan for the professions and another plan for the public as a whole.

I assume that the real intent of this subject is to discuss what type of practice the medical officer will return to. He will return to the type of practice that we who are not in the armed forces are willing to fight for, and, unless we are willing to make a vigorous fight for his return to the type of practice he left, no one can with any degree of certainty state what type he will return to. It is impossible that even with a vigorous fight he may return to some type of planned medical care.

I have stated on several occasions that we are engaged in two wars. The first one is to defeat the Axis, and the second one is to preserve democracy in the world at large, but particularly in our own country. To make my meaning quite plain, our second war is against the bureaucrats, because I am firmly convinced that you cannot mix democracy and bureaucracy without losing the basic principles of the democratic form of government. It is quite impossible to unscramble scrambled eggs.

Read before The National Conference on Medical Service, February 14, 1943, Chicago, Illinois.

I would then state that we have two armies. The first army is composed of the men and women in the military service, whose first duty is to make whatever sacrifices are necessary to win the war against the Axis. Our second army is composed of the people at home whose first duty is to cooperate with the government to the fullest extent in producing the necessary equipment to wage a global war and the necessary food to take care of our civilian population and armed forces. One must admit the necessity of our furnishing various types of equipment to our allies, as well as food. This is particularly true of Russia, because of the great part she is playing in the war.

The second responsibility of our people at home is to give serious consideration to the type of government we are establishing during this emergency and the type of peace that we propose to participate in after the war is over. The consideration of these two problems is going to determine largely not only what type of practice the medical officer returns to, but also the type of life that our entire armed forces are going to return to, and the type of life that we are establishing or going to establish for ourselves.

If we review the developments of the last few years before we entered the war, it is quite evident that we were moving very rapidly toward a centralized form of government. It is also evident that, since the war, that movement has been accentuated. Part of this accentuation is justified as a war measure; part of it cannot be justified as being essential to our war efforts.

Before the war, our government engaged itself in a series of experiments to bring about economic and social stability. The history of those experiments does not need to be reviewed, other than to say that the end sought was not gained, and a huge national debt was established. Many believe that those experiments were not the product and thought of the men who have contributed so much to the building of America. They were the product of an inexperienced intelligentsia. The "intelligentsia" have recently been defined as those individuals who have more education than they have intelligence to use. I would not decry the right or purpose of intelligent experimentation and research. All progress is the result of experiment and research, but experiment and research should antedate the adoption of the cure-all.

That we were and are in need of economic, social and political reform is not questioned here. The question is and should be, the method of approach. The method of approach should not be the condemning of any group or the raising and accentuating of any popular cry for the common man. It should be an intelligent approach, free from discussions and actions that tend to disunite the people as a whole. Perhaps the "forgotten men" of America are those men who pioneered the very America we have. Their spirit of progress and adventure must always be retained.

It is evident that during this period of war we have moved steadily toward a bureaucratic form of government. We entered the war as not only the greatest, but perhaps the best, example of a democratic form of government, and we entered the war because we were fearful that the Axis would destroy democratic government.

It is generally accepted that the best type of democracy is the one that is the least governed. It seems plausible that the more we govern the people the less freedom they have. There have been many things that might be questioned as to the example we are setting up before the world as to our justifiable claims to being a great and good democracy.

First: We have, by various processes of rationing, with the creation of an extensive system of rationing boards and bureaus throughout the country, said to the world at large that we cannot trust our people to cooperate with the government in the prosecution of war to preserve democracy. There has been no great national appeal to the people of the United States to set an example for the rest of the world that we could and would make the necessary sacrifices without compulsion. Quite the contrary — there has been an extension of bureaus and regimentation. The question can justifiably be raised, "Would such an appeal have worked in this country?" The answer is that at least it could have been tried.

Second: In our war efforts there is a feeling among a great many that we have put military achievements ahead of democratic principles. We have criticized such action by other nations, and again the question is, are we setting an example for the democratic peoples of the world to follow?

Third: Our labor and farm problems have not been solved, and we continue to create more bureaus to make more studies. This seems to add to the confusion of the problem, and not only takes no action against inflation, but the recent program will, indeed, speed up inflation.

Fourth: We now have approximately three million people on the federal payroll, making up a long list of bureaus, many of which are conspicuous for their lack of executive dispatch and executive decision. There is no tendency to decrease the establishment of these bureaus, but, rather, a tendency to increase them with a resulting continued growth in the number of federal employees. It has been said that we have a government of the bureaus, by the bureaus, and for the bureaus. If we are looking for some solution for our manpower problem where every individual will contribute to the winning of the war, it may be suggested to Mr. McNutt that he start with the bureaus at Washington rather than in the offices and plants of our industries and on the farms. Management and industry have demonstrated their capacity to function and do the job they are trained for. Efficiency men from the various bureaus in Washington can add little except confusion to an orderly process.

Fifth: If we propose to follow the program as outlined by the State Department and advocated by Mr. Hopkins and Mr. Wallace, there seems little doubt that our bureaus will be increased during the post-war period.

For many years there has been much said by the New Dealers and certain reformers about the ill-clothed, the ill-fed, and the ill-housed in the United States. Today we hear these same people making emphatic statements that we must sacrifice more and more through the years to come in order that we may establish and maintain peace in the world and supervise not only the lives of our own people, but, to a large extent, the lives of the entire world.

Sixth: There are, in addition, evidences that the government proposes to extend the social reform, and some proposals are now under consideration. It has been stated that the President has a proposal nearly as comprehensive as the Beveridge Plan now being discussed by the British government.

Seventh: Another evidence of this bureaucratic democracy is that the voice of the people in this country has not been heeded to any great extent by the administration. This is shown by the fact that those individuals that the American people voted out of office in the last election have all been placed in more or less important positions in Washington, regardless of their quality or ability to discharge the duties of that position.

Eighth: The recent decision of the Supreme Court affirming the American Medical Association as being guilty of restraint of trade brings a new problem into the future of medicine and the type of practice our medical officers will return to. It is, in substance, a statement or decision that the ethics of the profession, if they in any way restrain trade, must give way to trade. The great progress of the medical profession in the last 30 or 40 years in improving medical education, standardization of hospitals, and high ethical standards for the practice is apparently to be disregarded, and trade allowed to flow free, regardless of its quality.

Ninth: Another consideration is the large number of hospitals that the government is building and purchasing throughout the United States today. There are many who are of the opinion that these hospitals will be maintained by the government after the war and that they will be used to supply medical care to the soldiers and to their families in the post-war period.

The future of the medical officer is such that many men that I have personally talked to are so fearful of post-war practice that they are inclined to want to stay in the government service, not because they believe that this will bring about progress in medical care for the American people, but because they think they will be more secure in the conflicting post-war period.

The question finally resolves itself to the opening statement that military men will return to the type of practice we and the American people are willing to fight for. It is somewhat obvious that in the profession and among other people there are those who fear to offer any type of criticism as regards the course we are taking. They are apparently attempting to straddle the fence and hope to fall in whichever direction seems to be more profitable to them at the immediate time.

In the final analysis there will be little to be gained by defeating the Axis and establishing a bureaucracy that deprives the people of true liberty.

Committee on Medical Economics
R. K. Packard, M.D.
Chairman

Where there is no seed, there can be no harvest regardless of the type of soil. Elimination of open tuberculosis from the community means ultimate eradication of the disease. Obviously any program for tuberculosis control must include finding not only the infectious cases but also those in the non-contagious or minimal stage of the disease. With the dramatic and popular appeal of special tuberculosis case finding, one is apt to ignore the basic principle of the epidemiology of tuberculosis. The longer and the more intimate the exposure, the greater the risk of the exposed person regardless of age level. Hilbert Mark, M.D., Amer. Rev. of Tuber., Aug. 1942.

Every hospital patient who produces sputum, regardless of his diagnosis, should at least have his sputum examined for tubercle bacilli. A tuberculosis-conscious medical staff will order more X-ray films of the chest, especially among the groups of patients in whom the disease is more prevalent. The hazard of exposure from the hidden cases of tuberculosis on the wards of general hospitals will remain until such time as fluorograms are used routinely in the admission departments. Jason E. Farber, M.D., and Wm. T. Clark, M.D., Amer. Rev. of Tuber., Feb 1943.

Medicine's Role in the War Effort

RESTRICTIONS ON USE OF INTERNS AND RESIDENTS

Because the number of interns and residents available for the year 1943-1944 will be very limited, the hospitals of the United States will have to reduce the number of such personnel to approximately 50 per cent of the number they maintained in 1940, it is announced by the Directing Board of Procurement and Assignment Service, acting on the advice of its Committees on Hospitals and the Allocation of Medical Personnel.

The following recommendations have been issued by the Directing Board of the Procurement and Assignment Service to its state chairmen:

For the efficient utilization of attending physicians, interns and residents, hospitals should avoid duplication of activities such as two or more medical, surgical or other surgical services, by consolidating such parallel services into one.

Hospitals should be requested also to arrange for the reabsorption of clinics in the subspecialties into a general clinic of the parent specialty and to maintain within the structure of the medical staff, in both inpatient and outpatient services, only such specialties as are recognized by the Advisory Board for Medical Specialties.

A hospital should not have more interns on July 15, 1943 than the number on duty on July 15, 1940 unless it can be shown that the institution's patient load has definitely increased or that other conditions exist that merit special consideration. Hospitals which have had a decrease in their patient load since July 15, 1940 should make a corresponding decrease in the number of interns.

In order to provide an adequate background for military medical service, at the completion of one year of internship, hospitals which do not now maintain rotating internships should, for the duration of the war, broaden and diversify the instruction and experience of their interns.

A physician who is eligible for military service should not be approved as an essential resident in a hospital unless the residency concerned is approved by the appropriate crediting body.

A physician who is eligible for military service should not be approved as an essential resident in a hospital for longer than a period of one year immediately following the completion of his internship. Physicians who by age, sex, physical defect or citizenship status are disqualified for military service may serve as residents in hospitals for periods varying from one to three year after internship. After this period of service such physicians, if they are to be approved by the Procurement and Assignment Service as essential, must have been appointed as full time members of the regular medical staff.

After July 1, 1943 the total number of residents permitted for the hospitals of the United States shall not exceed 50 per cent of the number on duty in the hospitals on July 15, 1940; this 50 per cent shall include those residents who are not eligible for military service, e. g. women physcians, physically disqualified male physicians, older physicians and alien physicians.

In view of the considerable number of physicians not qualified for military service who should be available for appointment as hospital residents, all hospitals should fill as nearly 100 per cent as possible for their allotted residencies with physicians not eligible for military service.

The total number of residents which a hospital may be permitted to retain shall be directly related to that hospital's teaching and service responsibilities, with particular reference to the proportion of its ward service to total service. Consideration of an individual resident should be based primarily on his teaching responsibilities and patient service load and not on any specialized service which he may render to individual members of the staff or to a particular hospital service. A hospital shall not be permitted to retain a greater percentage of the number of its residents which it had on July 15, 1940 than the percentage of its ward patient days in relation to its total patient days; except that a hospital shall not retain more than two-thirds the number of the residents it had on July 15, 1940.

Ward service is defined as service to patients who are not charged or paying a professional fee and patients who are used for teaching demonstration. if a teaching program is being conducted. In computing the service load, the volume of out-patient visits shall be given due consideration.

Primarily teaching hospitals, i. e. hospitals carrying major responsibility for undergraduate medical teaching, shall be given consideration for that service in addition to that which they receive on the basis of ward service. A hospital which has made radical changes in bed capacity or in its intern and residency plans or has lost an excessive proportion of its visiting staff since July 15, 1940 may receive special consideration in the number of residents it is permitted to retain.

The Central Office of the Procurement and Assignment Service shall determine the total number of residents to be allotted to each state and shall suggest for the guidance of the respective state chairmen the number of residents recommended for each hospital after July 1, 1943.

Hospitals which find it necessary to request permission to retain, for a residency, an intern who holds a commission in military service shall submit such request to the state chairman for physicians of the Procurement and Assignment Service, who will add his recommendations and forward it to the Central office of Procurement and Assignment Service for action by the directing board and for recommendation by the Army and Navy.

As far as possible, physicians who hold reserve military commissions for whom requests for further deferment have been made shall be assigned to residencies which will provide training of greatest usefulness in their subsequent military service, e. g. in surgery or medicine rather than in obstetrics and gynecology.

In order to accomplish these objectives, all residents must be selected from the following groups:

1. Women physicians.

2. Male physicians who have been officially rejected for commisioned service with the Army or Navy.

3. Male physicians who have been classified 4-F by Selective Service.

4. Physicians who have applied for commission in the Medical Corps of the Army of the United States or the Naval Reserve and whose deferments are being requested for the ensuing year, as outlined.

Hospitals should be instructed not to communicate with the Army or the Navy regarding deferment of reserve officers for further hospital service. Such communications should always be addressed to the state chairmen of the Procurement and Assignment Service,

PRESBYTERIAN HOSPITAL UNIT ACTIVATED

On March 19, twenty-four doctors and thirty-two nurses of the Thirteenth U. S. Army General Hospital (sponsored by the Presbyterian Hospital, Chicago) left for Camp Robinson, Arkansas, to join seven other medical officers and some three hundred and sixty-five enlisted men who had reported at Camp Robinson at an earlier date (The Journal, March 13, p. 846), thus reactivating Base Hospital No. 13, which was sponsored by the Presbyterian Hospital in service in the first world war. The commanding officer of the Thirteenth General Hospital will be Col. Lyle S. Powell, who served in the first world war in France and recently was a member of the staff of the Army Field Service School, Carlisle Barracks, Pennsylvania. Colonel Powell formerly was a member of the faculty of the University of Kansas. The other medical and dental officers on duty with the unit are as follows:

MEDICAL SERVICE

Lieut. Col. H. K. Nicoll	Capt. John Tysell
Major O. E. Gray	Capt. B. O. Nelson
Major G. W. Stuppy	Capt. D. A. Morrison
Major G. C. Turner	Capt. H. C. Breuhaus
Major C. J. Harrison	Capt. R. E. Talbott
Capt. Joseph Bennett	Lieut. R. P. Morris
Capt. James Webster	Lieut. W. L. Riker

SURGICAL SERVICE

Lieut. Col. E. M. Miller	Capt. C. E. Brock
Major L. J. Wallner	Capt. C. S. Textor
Major C. V. Crane	Capt. Cecil Draa
Major F. H. Straus	Capt. F. B. Papierniak
Major R. K. Gilchrist	Capt. H. C. Baum
Major Stanley Lawton	Lieut. F. M. Marquis
Major E. H. Fell	Lieut. W. C. Cameron
Major Arthur Diggs	Lieut. Isaac Michael
Major John Olwin	Lieut. F. A. DePeyster
Capt. S. A. Friedberg	

LABORATORY SERVICE

Major Evan Barton	Lieut. R. L. High
Capt. Franklin Moore	

X-RAY SERVICE

Capt. G. L. Pelkey	Lieut. E. S. Murphy

DENTAL SERVICE

Capt. A. R. Hanson	Lieut. A. L. Klein
Capt. J. M. Spence	Lieut. R. K. Stockton
Lieut. Richard Holic	

The chief nurse will be 1st Lieut. Nelle Crout and other nurses, when recalled to the unit, will bring the number of nurses to about a hundred. Among the enlisted men in the present unit are several whose fathers served with the original Base Hospital No. 13 at Limoges, France, from May 1918 until after the armistice was signed.

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AVIATION MEDICAL EXAMINERS

Another class in aviation medicine for aviation medical examiners graduated recently. The didactic portion of the course was conducted at the School of Aviation Medicine in Texas and the practical portion at three army air forces classification centers. Graduation exercises were held at each of the three centers. The list of graduates from Illinois are:

George Jaeger Best, 1st Lieut. Peoria; Walter August Bock, 1st Lieut., Chicago; Edward E. Cannon, 1st Lieut., Chicago; John Sheldon Clark Jr., 1st Lieut., Chicago; Wendel Rayburn Freeman, 1st Lieut., Champaign; Robert Henner, Captain, Chicago; Cletus Timothy Kearney, 1st. Lieut., Gridley; Milton Harold Partridge, 1st Lieut., Elgin; Voris Ralph Payne, 1st Lieut., Wayne City; William P. Phillips, 1st Lieut., Chicago; Robert Bruce Rutherford, Captain, Peoria; William Bernard Seamon, 1st Lieut., Chicago; Henry Fred Otto Steinbock, 1st Lieut., Villa Park; Kent Lincoln Wattleworth, 1st Lieut., Newton.

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MORE NURSES NEEDED

At a meeting of the directors of the National Nursing Council for War Service in New York, March 19, it was reported that schools of nursing throughout the country admitted 5,000 more students during the current year than they did the year before. However, the total of 49,169 is nearly 6,000 less than the quota which the nursing profession and the government estimated necessary to meet war needs.

"Since 6,000 young women who are needed as nurses are doing something else instead or taking no part in the war effort," said Katherine Faville, chairman of the Council's Committee on Recruitment of Student Nurses, "some new element must be added if we are to secure the greatly increased number of new students, 65,000, who should begin nursing educations during the school year that opens June 1. The modest government stipends for student nurses that it suggests should enable more of those qualified to enter nursing and should help meet the competition of high salaried war industry or the various military auxiliary services which offer women a soldier's pay even during training."

The school admissions figures were reported by the Department of Studies of the National League of Nursing Education on the basis of questionnaires sent to the 1,300 state accredited schools of nursing in the country. The admissions for the period June 1, 1942 to June 1, 1943 total 49,169, or 89 per cent of the quota sought. Eight states reached or passed the quotas assigned to them. They are Arkansas, Idaho, Iowa, Minnesota, New Mexico, North Carolina, Oklahoma and West Virginia. Other states which reached 90 per cent or more of their quotas are California, Colorado, Delaware, District of Columbia, Illinois, Indiana, Maine, Massachusetts, Mississippi, Montana, Ohio, Pensylvania, Rhode Island, Utah and Virginia. The New York State percentage was 86. The Committee on Recruitment of Student Nurses, now launching a heightened spring campaign, will study the areas where success was achieved in comparison with states where fewer girls entered nursing, to seek light on reasons, and to devise better methods.

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AUSTRALIA PROVIDES YANKS WITH HOSPITAL

The government of Australia, under its program of reciprocal lend-lease, has provided the United States with a new ten story hospital "somewhere in Australia" to be used by American soldiers, sailors and marines recuperating from illness and wounds suffered in the Pacific. The transfer does not involve payment of any sort. The building, construction of which was undertaken as a civic enterprise at a cost of $3,000,000, was taken over and adapted for the American forces to accommodate several times its original capacity. It is complete with laboratories, operating rooms, nurses' quarters and administrative offices. All ten stories are now being used. The main buildings are well arranged. Verandas for convalescents are supplemented by broad spaces on the roof, where servicemen gather to rest in glass enclosed rooms or in the open air. Recreational equipment is available. The new hospital is one of many Australian contributions to the United States forces in the Pacific as reciprocal lend-lease.

Australia provides most of the food for our troops on the mainland and has recently undertaken to supply food as well to American troops in New Guinea, the Solomons and other islands in the South and Southwest Pacific theaters.

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WAVES FOR THE HOSPITAL CORPS

A Hospital Corps School for Waves to be established at the Naval Medical Center, Bethesda, Md., has been authorized and construction is expected to start soon. The school will accommodate training classes of 500 students. On March 8 there were 209 Hospital Corps Waves, of whom 97 were on active duty at that time and 122 were undergoing indoctrination at Bethesda and San Diego. The Bureau of Medicine and Surgery expected another 150 on March 22, which would be assigned to indoctrination classes at the naval hospitals at Great Lakes, Ill., New York and Chelsea, Mass. Another group of 150 waves was expected from the Wave School at Cedar Falls, Iowa, on April 5.

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AT A JUNGLE FIRST AID STATION IN PANAMA

An army doctor at a jungle outpost in the Panama Canal Department is a military tactician as well as a physician, as with his help it is possible to maintain gun and searchlight positions in the jungle. The officers and enlisted men of the medical department have hacked their way through the jungle, built first aid stations and are largely responsible for the lowest malaria rate in the history of the Army in Panama. Ambulances can now reach many of these positions to bring in soldiers requiring hospitalization, while formerly litter bearers had to carry a sick man for miles. Army doctors attached to one Coast Artillery unit still must travel 225 miles a day to cover a few of the emplacements in the jungle. These officers daily look for mosquito breeding places. Continuously they move first aid stations into different positions in the jungle. A first aid station which can be packed into two trunks is built near emplacements. Emergency operations can be performed at a moment's notice in these aid stations. One jungle position for over a year has had a perfect sanitation record, and not one man has had malaria. Occasionally natives living in the jungle call at first aid stations to be treated. The dentists who visit the emplacements regularly carry their equipment in a trunk containing a folding steel chair, foot engine and surgical dental equipment. The biggest problem confronting the jungle medical detachment now is transportation. The positions are so scattered that much time is taken up by traveling.

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MEDICAL FIELD SETS DONATED TO COAST GUARDS

The Illinois Opera Guild Ferry Command and the Drake Hotel Red Cross Unit have presented emergency medical field sets to the U. S. Coast Guard at Chicago. In forwarding these sets from the Medical and Surgical Relief Committee of America in New York, Mrs. Huttleston Rogers, executive chairman, writes that the War Shipping Administration has made a request for twenty-four emergency medical field sets to be sent to Casablanca, Dakar, Cape Town, Murmansk, Trinidad and other distant ports. The Anglo-American Commission also has requested thirty-six of these units for use in the Caribbean area. The committee requests that physicians and surgeons, particularly, and any other persons who may have scalpels, splinter forceps, probes, grooved directors, scissors and other instruments of this nature send them promptly to the committee's headquarters at 420 Lexington Avenue, New York City. These instruments need not be new, as facilities are available for their repair.

The tuberculosis death rate is an excellent index of the current health of the nation. Louis I. Dublin, M.D.

The large movements of population because of the expansion of defense industries, the inadequacy of housing facilities in many parts of the country, and the accelerated work tempo demanded in many industries lead health officials in this country to expect an increase in the mortality of tuberculosis such as has been experienced in Great Britain. Last year there was a slight rise in tuberculosis mortality in New York City but in 1942 this increase appears to have halted. The number of deaths due to tuberculosis, however, is still so large that control measures should in no way be abated. Bull. New York City Dept. of Health Feb., 1943.

SAY THAT INFECTED PROSTITUTES SHOULD BE DENIED THEIR LIBERTY

Intern Repeated Offenders For The Duration And Compel Them To Aid in War Effort, Two Brooklyn Physicians Advise

"If the state can call on a man for his life in this grave emergency, surely the common welfare demands that the 'right' of an infected prostitute to be at liberty while still infectious be disallowed, at least for the duration of the war," Hyman Strauss, M.D., and Isaak Grunstein, M.D., Brooklyn, declare in *The Journal of the American Medical Association* for April 10 in a report on their findings from a study of 615 women with gonorrhea who were hospitalized at the Kingston Avenue Hospital, Brooklyn.

"We feel," they explain, "that a prostitute, although treated, remains potentially infectious for approximately three months, during which time, if at large, she is a source of infection and as such forfeits her right to the benefit of doubt.

"The cure of an infected prostitute requires adequate compulsory hospitalization. Repeated offenders should be interned for the duration and compelled to aid in the war effort. If the law now does not adequately remove this public health hazard, as it does in most contagion, remedial statutes should at once be enacted toward that end. . . ."

The two physicians report that their "study of 615 hospitalized gonorrheal patients shows that 60 grains of sulfathiazole daily for one week gives a 95 per cent apparent cure rate. The administration of sulfathiazole or sulfapyridine to the failures increases this rate to 98.9 per cent.

"This very high cure rate must, however, be carefully scrutinized in order to determine the permanence of our immediate results. It must be ascertained in each case whether there has been sufficient treatment and an adequate period of observation.

"Furthermore, and most important, it must be determined whether the criteria of cure employed are sufficient to ensure protection of the public against further infection. The difficulty in detecting the asymptomatic (without symptoms) carrier cannot be emphasized too strongly. Health departments defeat their own purpose by hospitalizing patients to control infection and then releasing them before cure in the custody of a private physician because of an interpretation based on the present law. . . ."

For example, the two men explain that out of the group of women they studied 109 infected patients were discharged by the Department of Health by special releases before treatment was completed. Drs. Strauss and Grunstein say that "Assuming that only 100 of these 109 girls return to prostitution as a livelihood, and allowing them sixty-five days for idleness and menses, and granting the average number of daily exposures to be even less than their admitted minimum of twenty, approximately half a million men could be infected in a year while the girls are under private medical care and yet continue to practice their profession at the same time. The futility of follow-up in ambulant patients whose very livelihood depends on deliberate and persistent reexposure is obvious. When, in addition, the asymptomatic carrier is considered, the problem is complicated many fold. . . ."

The two men point out that not only would the interning of repeated offenders possibly lead to their permanent rehabilitation but also "the added cost of such hospitalization will be more than offset by considerations of health and the undoubted prevention of loss of time and efficiency in our war industries and armed forces on whom our national safety depends."

The average period of hospitalization for those women studied who had gonorrhea alone was thirty-one days and for those with gonorrhea and syphilis forty-five days. Most of them were between 20 and 30 years of age, the youngest being 16 years and the oldest 49 years.

"In our opinion," they say, "at least four consecutive negative cultures and smears should be made at weekly intervals and the patient should be clinically negative and be under a further period of observation for at least six weeks before she can be reasonably regarded as noninfectious. Additional studies will prove whether it is safe to decrease the dosage, treatment time and the period of observation. The ultimate desideratum of cure in female gonorrhea will be the failure to reproduce the infection after human exposure. . . ."

OFFICIAL PROGRAM

OF THE

One Hundred Third Annual Meeting
Illinois State Medical Society

PALMER HOUSE

CHICAGO, ILLINOIS

MAY 18, 19, 20, 1943

CONVENTION HEADQUARTERS



The Palmer House

A Personal Invitation To Your 103rd Annual Convention

Two years ago, in answer to just such an invitation, you came from all parts and sections of the State of Illinois, "four thousand strong" to register and attend your Annual State Medical Convention. You came for various and sundry reasons: (1) You had "spring fever" and you wanted a few days of relaxation free from the twinge of conscience that you were running away from a great deal of sickness and unfinished business — because you were combining relaxation, pleasure and a quest of scientific knowledge which you knew was waiting for you at your Annual Meeting. (2) You came to Chicago because you like Chicago with all that this hustling, bustling World's metropolis offers you. Chicago in May is a friendly place, and offers so much, and in such divergent variety. Are you a quiet type — A lone wolf — An intravert — Then after a full interesting day at the scientific sessions at the Palmer House, Chicago's public parks, and boulevards are irresistible. A great sage and philosopher once remarked that after a nerve racking day he found both peace and inspiration sitting alone at twilight on a bench in Grant Park on Chicago's water front, glancing reflectively and alternatingly on the vast expanse of water and the halcyon of skyscrapers behind him. Try it yourself. I have. You'll be surprised!

However, maybe you are an extravert and like people. Boys, you'll find them in Chicago — in the hotels, theaters, cafes, and highways and byways.

You are a serious type and have long yearned for museums and galleries? You know without detailed information what a feast Chicago has in store for you.

Or does your love for sports still linger? You want to combine a quest for knowledge with a close-up of the Cubs, the Sox, hockey? All yours for the asking.

There are two new and important reasons why you will want to come to Chicago to attend this 103rd Annual Meeting. First, you will find a new and different Chicago than you have ever experienced in any previous visit. Chicago is girded for war. Oh, it is not only the countless thousands of soldiers and sailors, flyers and marines you brush shoulders with constantly, — no, it's bigger and more subtle than that. It is intangible, yet it's there and you are conscious of it every moment! Chicago is gay, its lights undimmed — and yet the air is surcharged with a new and different tempo. Chicago is doing an enormous job, is backing up its boys — but is carrying on with strength and courage in their absence. You will like this new Chicago. It will do something for you and it will brush away a few cobwebs and send you on your way, distinctly uplifted, like, shall we say, an I. V. of thiamine.

Your three days at the Palmer House too will be different, oh, very much different. The entire program has a military tang, a combination of the civil and the military. You will encounter new topics, new problems, and yet the same friendly atmosphere amongst your friends from all over the state.

Your last and most important reason for coming to this meeting is a bit paradoxical. It will be harder, more difficult than ever before, and yet more pleasant. You are working harder and longer than ever before, and consequently are in no mood to leave it all even for three days. And besides the trip is a bit more difficult whether by auto or train.

However, you will probably reach your decision to come, because your government authorized this meeting and expects us, one and all to carry on even in time of war. And finally, may I leave this thought with you and leave it humbly yet sincerely.

We members of the medical profession have tuned our lives to service and to sacrifice, and as we sign our registration card at the Registration Desk at the Palmer House, we will sense that we have "checked in" twice, once for ourselves and once for the absent Buddy who would be there except for three thousand miles of ocean.

Robert S. Berghoff,
Chairman of Arrangements

General Sessions

OPENING MEETING

TUESDAY AFTERNOON, MAY 18, 1943
Grand Ball Room, Palmer House

1:00 Meeting Officially Opened by the President, Edward H. Weld, Rockford
Invocation — Archbishop Samuel A. Stritch
Address of Welcome, Hon. Edward J. Kelly, Mayor of Chicago.
Address of Welcome, Lt. Commander H. P. Saunders, President, Chicago Medical Society.
Report of the Chairman, Committee on Arrangements, Robert S. Berghoff, Chicago.
Adjournment for scientific meetings.

TUESDAY EVENING, MAY 18, 1943
Red Lacquer Room, Palmer House

9:00 Oration in Medicine —
"The Contribution of the Medical Profession Towards Winning the War"
James E. Paullin, President-Elect of the American Medical Association, Atlanta, Georgia.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

11:00 Oration in Surgery "Injuries Done the Peripheral Circulation by Heat, Trauma, Infections and other Agencies. The Definition of Shock."
Willis D. Gatch, Dean and Professor of Surgery, University of Indiana School of Medicine, Indianapolis, Indiana.

WEDNESDAY AFTERNOON, MAY 19, 1943
Grand Ball Room, Palmer House

1:30 President's Address
"The Future of Medicine"
Edward H. Weld, President, Illinois State Medical Society, Rockford.

THURSDAY MORNING, MAY 20, 1943
Red Lacquer Room, Palmer House

Induction of the President-Elect

Immediately following the completion of the second session of the House of Delegates, the President-Elect, George W. Post, Chicago, will be inducted into the office of President of the Illinois State Medical Society by the retiring President, Edward H. Weld, Rockford.

All members and guests at the meeting are invited to attend this interesting function.

Joint Sessions

WEDNESDAY MORNING, MAY 19, 1943
Grand Ballroom, Palmer House

Joint session of Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

9:00 "Activities of the United States Public Health Service in War Time."
Frank V. Meriwether, District Director, Dist. No. 3, U. S. Public Health Service, Chicago.

9:20 "Convulsions."
M. G. Peterman, Milwaukee, Wisconsin.

9:40 "Medical Education in the Present War."
J. Roscoe Miller, Dean, Northwestern University Medical School.
Discussion opened by Eben J. Carey, Dean, Marquette University Medical School, Milwaukee, Wisconsin.

10:20 "Facts and Fancies in Vitamin Therapy."
Anton J. Carlson, Chicago.

THURSDAY MORNING, MAY 20, 1943

Joint session of Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

9:00 "Chest Wounds."
Major. Lindon Seed, M.C., Camp Grant, Rockford.

9:30 "Epidemic Respiratory Tract Infections at Fort Custer."
Lt. Col. Frank B. Lusk, M. C., Camp Custer, Michigan.
Captain Kenneth Lewis, M. C., and Lt. Richard P. Morris, M. C., Camp Custer, Michigan.

10:00 "Film Demonstration of Virus Pneumonias & Their Complications."
Lt. Commander Chester H. Warfield, Great Lakes, and Lt. Commander J. M. Neeley, Great Lakes.

10:30 "War Time Consideration of Syphilis."
Paul A. O'Leary, Mayo Clinic, Rochester, Minnesota.

11:00 "Epidemic Keratoconjunctivitis."
Major Murray Sanders, M. C., Carlyle, Pennsylvania.

11:30 "The Diagnosis and Treatment of Ano-Rectal Diseases in a Station Hospital."
Major E. H. Quandt, M. C., Camp Grant, Rockford.

Section Programs

SECTION ON MEDICINE

**M. Herbert Barker Chairman
Chauncey C. Maher Vice-Chairman
George B. Stericker Secretary
**In service.

TUESDAY AFTERNOON, MAY 18, 1943
Grand Ball Room, Palmer House

2:00 "Evaluation of Cardiac Patients as Surgical Risks."
Lawrence E. Hines, Chicago.
Discussion opened by Bertram J. Fitzgerald, Chicago.

2:30 "Modification of Protamine Zinc Insulin ... the Treatment of Diabetes Mellitus"
Arthur R. Colwell, Evanston.

3:00 "Acute and Chronic Hepatitis (Cirrhosis)."
Walter L. Palmer, Chicago.
Discussion opened by Clarence F. Brown, Chicago.

3:30 Round Table — "Hematology."
Howard Alt; Steven Otto Schwartz and Louis Limarzi, Chicago.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Grand Ball Room, Palmer House

2:00 Chairman's Address — "Co-Existence of Disease Entities in One Individual."
Chauncey C. Maher, Chicago.

2:30 "Convulsive Shock Therapy: Indications, Contraindications and Results."
Vernon L. Evans, Aurora.
Discussion opened by Francis J. Gerty, Chicago.

3:00 "Pyelitis and Pyelonephritis."
Charles Morgan McKenna, Chicago.

3:30 "Cardiovascular Round Table."
Francis Murphy, Milwaukee, Wisconsin; Hermon H. Cole, Springfield; Edgar M. Stevenson, Bloomington.

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Surgery; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program, See Joint Sessions.)

SECTION ON SURGERY

**J. C. Thomas Rogers Chairman
Joseph S. Lundholm Vice-Chairman
J. R. Buchbinder Secretary
**In service

TUESDAY AFTERNOON, MAY 18, 1943
Red Lacquer Room, Palmer House

Joint Session with Central States Society of Industrial Medicine and Surgery; Chicago Society of Industrial Medicine and Surgery.

1:45 "Treatment of Burn Lesions with Biodyne."
Thomas F. P. Walsh, Chicago.

The treatment of burn lesions with Biodynes is a significant gesture in the field of traumatic surgery.

Biodynes are natural chemicals, the end-products of treating yeast cells and fish liver cells and oils, with ultra-violet light, Roentgen rays, mechanical injury, chemical injury, etc. These factors are identified as Respiratory Stimulating and Growth Promoting Factors which control and assist cellular metabolism, respiration and proliferation, therefore they may be considered the Primary Formative Stimuli of cell life in tissue repair.

One hundred cases of severe burn lesions, not including first degree or second degree lesions of minor importance, will be summarized. Kodachrome slides are available for demonstrations.

2:15 "Selection of the Proper Surgical Incision."
Alfred B. Owen, Rockford.

The importance of proper operative incisions has always been stressed by authors of operative surgery and teachers of operative technique. The paper discusses the importance of a proper incision in the more common types of operative procedures and the underlying surgical principle involved.

To facilitate the operative procedure which is to follow, lessen the postoperative complications and restore the patient to health with the minimum loss of time is the ultimate goal of good surgery.

2:45 "Tumor Diagnostic Services in Illinois."
Harry Otten, Springfield.

This paper will present the policies, primary objects, organization and scope of activities of the State-aided Tumor Diagnostic Services in operation at Springfield, Peoria, Rockford and Champaign under the auspices of the Division of Cancer Control of the State Department of Public Health.

The establishment of increased diagnostic and therapeutic facilities in general hospitals is considered to be at present the most effective means of reducing morbidity and mortality from cancer in Illinois.

Discussion opened by John A. Wolfer, Chicago. Continued by Charles L. Leonard, Rockford.

3:15 "A Modified Technique for the Combined Ligation and Retrograde Injection Treatment of Varicose Veins."
Joseph T. Gault, Chicago.

The method of simple ligation with subsequent injections was associated with many recurrences because of the failure to obliterate the thigh portion of the internal saphenous vein. High ligation and the retrograde injection of a sclerosing solution, now accepted as the treatment of choice, overcomes objections to the older treatment by insuring the obliteration of the thigh portion of this vein. However the ensuing chemical thrombophlebitis and periphlebitis, involving, as it does, the whole internal saphenous tree, often causes disability and considerable discomfort for a week or longer. A method is described for limiting the thrombosis of this vein to its thigh portion by creating a thrombotic barrier at the level of the knee and thus obviating the undesirable sequelae of the combined high ligation and retrograde injection treatment. The conclusion are based on an experience with about 175 cases.

Discussion opened by Geza de Takats, Chicago.

3:45 "Differential Diagnosis of Low Back Pain."
W. Stuart Wood, Decatur.

The problem of diagnosing the cause of a pain in the lower back is one which confronts every general practitioner and most specialists with increasing frequency.

The number of conditions in which pain in the back may be the chief or only symptom is amazingly large, even though we exclude conditions in which pain in the back is present, but not as a major symptom.

In making a differential diagnosis the first step is an accurate history which must supply definite information on the following points: 1. Age of the patient; 2. Sex of the patient; 3. Manner of onset of pain (with or without trauma); 4. Location of the pain; 5. Character of the pain; 6. Radiation of the pain; 7. Causes of aggravation of the pain; 8. Methods of relieving the pain.

With such a history the field of possible causes can be definitely narrowed.

Following the history should come a thorough physical examination made with the patient unclothed. This examination should determine:

1. Contour of the spine on standing; 2. Areas of tenderness to palpation; 3. Presence or absence of muscle spasm; 4. Any limitation of movements of the spine; 5. Effect of straight-leg raising and Faber tests; 6. Reflex responses in both lower extremities; 7. Any sensory changes in the lower extremities; 8. The length of both legs from the anterior-superior iliac spine to the internal maleolus; 9. Any abnormality of the gait.

Only after the history is taken and the physical examination is done are we ready to have x-rays of the spine. We can then determine the area we wish radiographed and the angles at which we wish the pictures taken.

The final diagnosis is made from the correlation of the information obtained in all three procdures. In order to facilitate diagnosis and to save time without sacrificing accuracy I have devised a card index system which I will demonstrate with the use of slides.

4:15 "One-sided Spinal Anesthesia in Extremity Surgery."
David L. Murphy, Dixon.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Medicine; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(Form Complete Program, See Joint Session.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Red Lacquer Room, Palmer House

2:00 "The Care of Cleft Lips and Palates."
L. W. Schultz, Chicago.

A comprehensive treatise on these lesions portraying their etiology, varieties and complications. The time for correction of different states of cleft lips and palates as well as surgical technique for these corrections, are discussed. To improve the technique it is essential to have an abundance of material. The weight, age and diet are all very important factors to be considered preoperatively. The technique described for unilateral and bilateral cleft lips and palates gives uniform satisfactory results.

2:30 "Posterior Mediastinal Goiter."
J. M. Mora, Chicago.

Posterior mediastinal goiter is the rarest of the completely intrathoracic goiters. The mechanism of descent into the thorax is discussed, together with the symptoms, pathology, diagnosis and treatment. Attention is directed to the technical details involved in removing a large thyroid mass from the chest through the superior thoracic aperture. A case is presented of posterior mediastinal goiter with thyrotoxicosis and a few pressure symptoms successfully removed through the usual collar incision without dividing the prethyroid muscles and without removal of any part of the thoracic cage.

Discussion opened by Marshall Davison, Chicago.

3:00 "Pulmonary Embolism."
Minas Joannides and Arthur Hesse, Chicago.

In an investigation of the factors involved in the cause of sudden death associated with pulmonary embolism the following facts have been observed.

1. Occlusion of the pulmonary artery, and artery and vein on one side result in an infarct with a subsequent healing or abscess formation in the lung.
2. Occlusion of pulmonary arteries of both lungs result in sudden death. In such cases an acute dilatation of the right ventricle and auricle is definitely observed.
3. Injection of coagulants produce sudden death due to coronary occlusion.
4. Injection of coagulants in sublethal doses or after a preliminary administration of coramine results in a tolerance to the coagulant so that no death occurs even though there is evidence of thrombosis and embolism not only in the coronaries but also throughout the whole body.

Discussion opened by Ralph Bettman, Chicago.

3:30 "Which Peptic Ulcers Should be Operated Upon?"
Karl A. Meyer and F. Steigmann, Chicago.

Gastro-duodenal ulcer is at present unanimously considered a disease to be treated medically. There are times, however, when the surgeon's intervention is demanded in the regiment of the patients with gastric or duodenal ulcer. In the majority of instances it is only one of the various complications of peptic ulcers which requires surgical intervention.

It is at present non-debatable that perforated peptic ulcers are surgical emergencies. Not so clear, to some as yet, do the indications for surgery in bleeding peptic ulcers appear, although these indications are becoming more clearly established as the beneficial results of surgery in cases of bleeding ulcer become better known. There are definite indications for surgery in some types of pyloric obstruction.

Radical removal of the chronic, large gastric ulcer by sub-total gastrectomy is also becoming a more prevalent procedure.

Careful preoperative preparation of the patient with attention to his general nutritional status (plasma proteins, vitamins and mineral balance) is essential. Appropriate anesthesia (preferably spinal), care during operation (fluids, blood transfusion), and good post-operative care (attention to fluid balance, blood, pulmonary status) have made radical gastric surgery a procedure with a low mortality in the hands of the surgeon.

Discussion opened by Alfred A. Strauss, Chicago.

4:00 "The Recognition and Management of Surgical Lesions of the Sigmoid and Pelvic Colon."
John A. Wolfer, Chicago.

Lesions of the pelvic colon and sigmoid may produce symptoms that suggest diseases of the upper gastrointestinal tract and even the biliary system. This fact must be taken into consideration in every case that presents gastrointestinal symptoms.

The lesions of the sigmoid and pelvic colon that concern the surgeon primarily are carcinoma and diverticula. During the diagnostic procedures however other conditions, primarily medical in nature, must be considered and eliminated. These include ulcerative colitis, Amoebiasis, the spastic or irritable colon, tuberculosis, and the non-specific types of chronic colitis.

Beyond an accurate history, carefully planned examinations will in time provide the necessary data for a correct diagnosis, and to a great degree dictate the type of therapy. It is to be stressed that the colon should be studied by the use of a barium enema first in all cases to determine whether the lesion is in the pelvic colon or sigmoid and whether it is obstructive before any opaque material is put into the upper gastrointestinal tract.

It is at times almost impossible to differentiate between carcinoma and diverticulitis of the colon.

The trend is toward a scrupulous preoperative preparation of the patient and one stage surgical procedures, with end to end anastamoses when possible without drainage or even surgical decompression. The use of the sulfonamides is encouraged.

4:30 "Transurethral Drainage of the Seminal Vesicles in Seminal Vesiculitis." (Lantern Slide Demonstration.)
Robert H. Herbst and James W. Merricks, Chicago.

Brief historical sketch is included, with a few notes on indications for and the technique of transurethral dilation of the ejaculatory ducts in certain diseases of the seminal vesicles. Relationship to chronic prostatitis is stressed. Some interesting late results of this form of treatment are included.

Discussion opened by C. G. Weller, Aurora.

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint Session with Sections on Medicine; Public Health and Hygiene; Radiology; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program See Joint Sessions.)

SECTION ON EYE, EAR, NOSE AND THROAT

G. Henry Mundt Chairman
George H. Woodruff Secretary

TUESDAY MORNING, MAY 18, 1943
Crystal Room, Palmer House

9:00 "Diverticula of the Pharyngo-Esophagus, One State Operation."
Max M. Kulvin, Chicago.

The paper will cover the anatomical aspects, types of diverticula, symptomatology, x-ray photographs of the diverticula prior to operation and the esophagus after operation, surgical procedure and post-operative treatment.

Discussion opened from the floor.

9:30 "Periphlebitis, Phlebitis and Endophlebitis of the Retina."
Ignatius Sommer, Chicago.

We find frequently inflammatory changes of the retinal veins in sections of enucleated eyes.

We find acute inflammations of the veins as acute peri-

phlebitis and acute thromboendophlebitis, usually in exogenous and rarely in metastatic endophthalmitis.

Chronic inflammatory changes of the veins are seen as periphlebitis which appears as infiltration in the perivascular spaces and adventitia and mostly secondary to chronic uveitis, as unspecific and rarely as specific form. The pure periphlebitis is relatively harmless and seldom gives rise to retinitis proliferans, never to hemorrhages. Rarely primary periphlebitis is found due to a focus in the body outside the eye.

Mesophlebitis is chronic inflammation and degeneration of the media and is responsible for hemorrhages in the retina, for so-called pre-retinal hemorrhages and vitreous hemorrhages. Chronic inflammatory unspecific and less frequently specific local alteration, metabolic disturbances like diabetes, chronic nephritis may produce mesophlebitis.

Endophlebitis is chronic inflammation and proliferation of the intima and is often caused by stasis of the blood circulation and anoxemia, further by toxic substances circulating in the blood.

Frequently these three types of chronic alterations of the retinal veins are combined in the same vessel.

Retinitis proliferans can be caused by any of these chronic alterations of the vessel wall and may start without hemorrhages in the vitreous.

Discussion opened by Beulah Cushman, Chicago.

10:00 "Osteomyelitis of the Facial Bones."
Glenn Greenwood, Chicago.

Osteomyelitis of the bones of the face, despite present day therapeutic measures, still occupies too prominent a place in the incidence of skeletal involvement. The essential pathology of this entity shows the same changes here as in any other fibroblastic tissues containing a deposit of lime salts in the ground substance. There are certain anatomical characteristics present in the facial bones which influence the clinical picture and, in some instances, challenge the diagnostic accumen and therapeutic judgment of those attending such cases. Case reports will be cited to illustrate.

Discussion opened by Thomas Galloway, Evanston.

10:30 "Head and Neck Neoplasms."
L. B. Bernheimer, Chicago.

Ten cases of head and neck neoplasms will be presented, each case illustrated with lantern slides. The discussion will indicate diagnostic and therapeutic measures, and the end results in the treatment of such cases will be discussed. The neoplasms to be presented are representative of benign and malignant tumors of the mouth, pharynx, larynx, nasal sinuses, and ear.

Discussion opened by Frank Novak, Chicago.

11:00 "Industrial Ophthalmology and Otolaryngology."
Gordon F. Harkness, Davenport, Iowa.

Industrial medicine part of a conservation of public health program. Industry has waited for practical cooperation. Basis of evaluating visual and hearing losses. Unique position and responsibility of the industrial surgeon. Malingering in industry. The psychological approach. Hazards in industry, compensable and non-compensable. Care of trivial accidents important. Technique of same. The surgeon as an ally of the safety and lighting engineer. The history and time of recording losses from industrial injuries. The question of the eye pad. Injuries associated with co-existent disease. Industrial medicine is the practical application of scientific knowledge to the needs of industry.

Discussion opened from the floor.

TUESDAY AFTERNOON, MAY 18, 1943
Crystal Room, Palmer House

INSTRUCTION COURSES

2:00 "Meniere's Syndrome."
John R. Lindsay, Chicago.

2:00 "Selection of Types of Operation for Cataract Surgery."
Samuel J. Meyer, Chicago.

3:30 "Treatment of the Sinuses by Irrigation."
O. E. Van Alyea, Chicago.

3:30 "The Treatment of Some Conjunctival Diseases."
A. C. Krause, Chicago.

TUESDAY EVENING, MAY 18, 1943
Crystal Room, Palmer House

6:00 Banquet.

7:30 "Masterpieces of Man and Nature in Color Photography."
C. O. Schneider, Chicago.

The 1942 Art Institute Exhibit of Rembrandts and other Dutch Masters reproduced by color photography.

The second portion will consist of views of some famous gardens and many gorgeous views of Zion, Grand Canyon and Bryce Canyon National Parks.

WEDNESDAY MORNING, MAY 19, 1943
Crystal Room, Palmer House

9:00 "Fuso-Spirochetal Tracheobronchitis."
Paul H. Holinger and Ralph G. Rigby, Chicago.

Chronic bronchitis and chronic pneumonitis are frequently associated with the discovery of large numbers of fusiform organisms and spirilla in the tracheobronchial secretions. The significance of these findings, the effects of specific therapy, and a resume of cases will be discussed.

Discussion will be opened by Robert K. Campbell, Springfield.

9:30 "Results of Surgical Treatment of Acute Congestive Glaucoma."
Peter C. Kronfeld and M. Isabelle McGarry, Chicago.

There is still gross disagreement with regard to the type of operation best suited for the acute emergency of acute congestive glaucoma. A basal iridectomy through a scratch incision appears to be the safest and smallest of all operations recommended. Traditionally the choice of operation, iridectomy can be expected to relieve permanently only those cases with not too extensive peripheral anterior synechiae and with normally functioning trabeculumcanal of Schlemm mechanism prior to the development of the synechiae. Actually iridectomy does not make a good showing in statistical reports. Iris inclusion operations while considered contra-indicated in acute congestive glaucoma by Spaeth, Goar and Schultz, have been successful in roughly two out of three cases at the Illinois Eye and Ear Infirmary. A similar, high percentage of successes has been obtained by corneo-scleral trephining although the narrowness of the angle present in this type of glaucoma seems to make permanent patency of the trephine hole unlikely. Another a priori-consideration which appears to speak against the use of the trephine in these cases, is that slow release of the aqueous seems irreconcilable with smooth complete removal of the trephine button. The present study was undertaken to determine some of the causes of the discrepancies between expected and actual, operative results. The cases of acute congestive glaucoma treated at the Illinois Eye and Ear Infirmary during the last five years were reviewed with the chief object of determining, by clinical and gonioscopic examination, the causes of success or failure of the particular type of operation.

Discussion opened by Watson W. Gailey, Bloomington.

10:00 "Nasal Sinusitis: Prognosis and Treatment Based on a More Rational Histopathologic Interpretation."
A. R. Hollender and M. F. Snitman, Chicago.

There is a lack of justification for the numerous radical sinus operations performed in the past, and still being done in some quarters. While the main principles of sinus therapy remains the same — ventilation and drainage — conservative procedures generally are adequate for improved results.

This presentation pleads for a revision of existing indications for radical operative interventon and supports this plea with conclusive histopathologic studies and clinical results.

Discussion opened by O. E. Van Alyea and Frank J. Novak, Chicago.

10:30 "A Potpourri of Clinical Cases in Kodachrome."
Roy O. Riser, Park Ridge.

The clinical pictures of various ophthalmic cases will be demonstrated with the aid of color photography.

Discussion to be opened from the floor.

11:00 Business Meeting.

11:30 "Evaluation of Shrinking Methods in Chronic Nasal Obstruction."
M. Tamari and W. Busby, Chicago.

The purpose of the paper is the evaluation of shrinking methods used in chronic nasal blockage at the Illinois Eye and Ear Infirmary.

The authors prefer submucous instillations of sodium psylliate in cases of obstruction from engorged turbinates and suggest a new technique of application.

In chronic persistent hypertrophic rhinitis an intamural diathermy should be administered.

Photomicrographs illustrate the reaction of the mucosa and the submucosa in both methods.

Discussion to be opened from the floor.

WEDNESDAY AFTERNOON, MAY 19, 1943
Crystal Room, Palmer House

INSTRUCTION COURSES

2:00 "The Treatment of Some Corneal Diseases."
Sanford R. Gifford, Chicago.

2:00 "Allergy in Diseases of the Ear, Nose, and Throat."
George E. Shambaugh, Jr., Chicago.

SECTION ON PUBLIC HEALTH AND HYGIENE

Henry C. Niblack Chairman
Roland R. Cross Secretary

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room 18

1:30-5:00
WAR AND POST-WAR PUBLIC HEALTH SERVICE

"Point of View of the United States Public Health Service."
F. V. Meriwether, United States Public Health Service, Chicago.

A brief history of the service and its activities and a descriptive explanation of its war activities ashore and afloat and within and without the United States. The "semi-war" activities such as V. D. and malaria control are described as well as the civilian duties of the service which include administration of Title VI funds, recruiting and training personnel for duty with state health departments and other agencies.

"Point of View of the State with Emphasis on Rural State Departments of Public Health."
Richard F. Boyd, Springfield.

Subsequent to the outbreak of the war, the Illinois Department of Public Health has assisted eleven counties, which are in defense areas, in establishing full time county health departments. These health departments are carrying out public health programs designed to meet problems arising out of the war effort. After the war, concerted effort should be made to provide local health service to all areas of the state. Legislation permitting counties to establish full time, adequately staffed health departments is a necessity.

"Point of View of the City."
E. K. Musson, Chicago.

The objectives of public health are basically the same in times of war and peace. More or less routine programs for the prevention of disease have even more serious implications during war. Problems of war necessitate a change in technic involved in such peace-time programs as diphtheria inoculations, smallpox vaccinations, etc.

In addition, war brings many new problems, as shifting populations, industrial hazards, shortage of personnel, new diseases and many others. The health department must anticipate these problems and apply to its activities the question "Does it help win the war?"

"Point of View of the Public."
Mr. Frederic Woodward, Chicago.

A survey of the administration of public health in Illinois, made for the American Public Health Association, revealed that its chief inadequacy resulted from the lack of full time health departments in rural areas. This inadequacy is sharply emphasized by the present shortage of physicians and the danger of war-time epidemics.

Governor Green instituted the organization of a Statewide Public Health Committee to develop public interest in health needs. The committee has made encouraging progress. One of its first tasks was to bring about the enactment of legislation which would enable counties to organize and maintain by taxation full time public health departments. A bill for this purpose has been introduced and the committee is advocating its enactment.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Radiology; Pediatrics; and Obstetrics and Gynecology.

For Complete Program, See Joint Sessions.

WEDNESDAY AFTERNOON, MAY 19, 1943
Private Dining Room 14

Joint Session with Sections on Pediatrics; and Obstetrics and Gynecology.

2:30- 5:00
"Complete Physical Examination of Our Little Girls."
Edward Allen, Chicago.

Parents of America have turned enthusiastically to the medical profession for the protection of their children's health. Few mothers of today attempt to rear their youngsters without some form of pediatric advice, including routine physical examination, preventive inoculations and supervision of nutrition.

Omission from this program of careful routine examination of the organs of reproduction and adequate instruction in the physiology and psychology associated with them will account for the majority of serious situations arising later in these organs. Death and disease from these causes could be cut fifty per cent or more by training doctors to make these complete examinations and by teaching people to demand them at regular intervals. Puritanism will not protect one from cancer.

Discussion opened by Arthur H. Parmelee, Oak Park.

"Psychiatric Problems of Adolescence."
David Slight, Chicago.

These problems come to notice as social disorders, scholastic, familial or delinquency more frequently than as the recognized neurotic and psychotic syndromes. However, histories of adults with the latter conditions frequently indicate that the symptoms of these conditions were already present in adolescence and then overlooked or unrevealed. These problems and the overt psychiatric disorders of adolescence will be discussed as to causation, treatment and prevention.

Discussion opened by Bert I. Beverly, Oak Park.

"The War-time Maternal and Child Welfare Program."
Fred L. Adair, Springfield.

In the fall of 1942 the Children's Bureau announced to the states a plan to allocate some available funds for the care of wives and infants of enlisted men. The sum of $10,000 was allotted to Illinois. Later $10,000 was rebudgeted from matched funds and still later $24,000 was rebudgeted. In March Congress appropriated $1,200,000 for the balance of the fiscal year ending June 30. Large appropriations will doubtless be made for next year. A report will be given regarding the details of this plan and its operation in Illinois.

Discussion opened by Luella E. Nadelhoffer, Chicago.

"Convulsions in Infancy and Childhood."
M. G. Peterman, Milwaukee, Wisconsin.

The study of convulsions has reached a new stage in development. The greatest contribution, since the classifica-

tion presented in 1934, was made by Hans Berger of Jena in 1929 when he introduced the clinical use of the electroencephalograph. With this instrument it has been possible to prove what was formerly only a clinical impression, that epilepsy is a hereditary disease. It is also possible now to diagnose a convulsive state and to even anticipate a convulsion with the electroencephalograph alone. The entire concept and classification of convulsions will need to be revised in the light of our present studies with the electroencephalograph. The incidence of convulsions can easily be explained in view of the findings that at least 15 per cent of the electroencephalograms on supposedly normal controls are definitely abnormal.

Discussion opened by Meyer Pearlstein, Chicago.

THURSDAY MORNING, MAY 20, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Radiology; Pediatrics; and Obstetrics and Gynecology.

SECTION ON RADIOLOGY

**Cesare Gianturco Chairman
F. Flinn Vice Chairman
Fay H. Squire Secretary
**In Service.

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room 9

1:30 "Abdominal Tumors of Questionable Origin; Roentgenological Aspects."
Adolph Hartung, Chicago.

"Eosinopilic Granuloma of Bone."
P. R. Dirkse, Peoria.

Report of the case of a rather unusual type of granuloma of the sterum which developed after an injury. Its clinical course and particularly its response to roentgen therapy resembled that of a tumor, particularly one of the Hodgkins or lymphoma group, but biopsies revealed a granuloma. The development of regional metastatic lesions distinguishes this case from other cases of this type of granuloma previously reported.

"Sarcoid."
J. Paul Bennett, Chicago.

A brief discussion of sarcoid with special reference to roentgenologic findings. The presentation of several cases and consideration of the differential diagnosis.

"X-Ray Manifestations of Atypical Pneumonia at Fort Custer."
Captain E. K. Lewis, M. C., Fort Custer, Michigan.

Of 500 cases studied during an epidemic of respiratory tract infection embracing some 2800 cases, 25% developed pulmonary findings characteristic or suggestive of atypical pneumonia. In many, the x-ray findings were distinctive enough, even in the earliest phase of the involvement, to make a positive diagnosis roentgenologically of atypical or virus pneumonia. In many, such a diagnosis was impossible because of the similarity of the lesion with measles broncho-pneumonia, acute bronchitis, tuberculosis, lung abscess, acute bronchiectasis, atelectasis, metastatic infiltration, and other conditions. In many of these cases, the mutual cooperation of the roentgenologist and clinician served to clarify the diagnosis. Slides presented carry the subject through from the time of the earliest phase to its latest manifestations, with the interposition of contrast slides depicting such conditions as tuberculosis, measles and with which atypical pneumonia is likely to be confused.

"The Value of Surgery and X-Ray Therapy in the Treatment of Cancer of the Breast."
Roswell T. Pettit, Ottawa.

In untreated cases of cancer of the breast 12% survived more than five years. (Lazarus-Barblow). In surgically treated cases, 36% survived five years (Adair). Cases treated by radiation alone, 35% survived five years, (Lee). In massive preoperative x-ray therapy the results have been disappointing, "Probably the good done by preoperative irradiation is more than overcome by the loss of time." Results in rural sections of Illinois compare favorably with results reported from large clinics and metropolitan centers. The paper includes a discussion of technical factors, surgical and radiological, as well as statistical report of results.

Film Reading Session.
Chester Challenger, Chicago.
David Beilin, Chicago.
John E. Madden, Decatur.
Fred H. Decker, Peoria.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Public Health and Hygiene; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program, See Joint Sessions.)

THURSDAY MORNING, MAY 20, 1943
Grand Ballroom

Joint Session with Sections on Medicine; Surgery; Public Health and Hygiene; Pediatrics; and Obstetrics and Gynecology.

(For Complete Program, See Joint Sessions.)

SECTION ON PEDIATRICS

A. J. Fletcher Chairman
Robert Cummings Secretary

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room No. 17, Palmer House

1:30 SYMPOSIUM ON NUTRITION.
"The Pattern of Growth in Infancy and Childhood."
John Carey, Joliet.
Discussant — Edmund G. Lawler, Chicago.

"Nutritional Anemias."
Henry Poncher, Chicago.
Discussant — Thomas F. Krauss, Rockford.

"Vitamin Requirements in Infants and Children."
John R. Vonachen, Peoria.
Discussant — F. H. Maurer, Peoria.

"Scientific Diets and Feeding Habits of Infants."
C. A. Aldrich, Chicago.
Discussant — Gerald M. Cline, Bloomington.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Private Dining Room No. 14, Palmer House

Joint session with Sections on Public Health and Hygiene; and Obstetrics and Gynecology.
(For Complete Program, See Section on Public Health and Hygiene.)

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Obstetrics and Gynecology.
(For Complete Program, See Joint Sessions.)

SECTION ON OBSTETRICS AND GYNECOLOGY

Clyde J. Geiger Chairman
C. J. Heiberger Secretary

TUESDAY AFTERNOON, MAY 18, 1943
Private Dining Room No. 14

1:30 "The Importance of the Outlet Contraction of the Pelvis in Obstetrics."
Ralph E. Campbell, Madison, Wisconsin.
Discussion opened by E. L. Cornel, Chicago.

"Inversion of the Uterus in Gynecology and Obstetrics."
Channing W. Barrett, Chicago.
Discussion opened by James H. Bloomfield, Chicago.

"The Treatment of Benign Uterine Bleeding in the Menopause."
J. Robert Willson, Chicago.
Discussion opened by Wm. T. Carlisle, Chicago.

"Surgical Complications of Pregnancy."
W. G. Cummings, Evanston.
Discussion opened by Wm. A. Malcolm, Peoria.

Time schedules for the above list of papers will appear in the official program.

WEDNESDAY MORNING, MAY 19, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Pediatrics.

(For Complete Program, See Joint Sessions.)

WEDNESDAY AFTERNOON, MAY 19, 1943
Private Dining Room No. 14, Palmer House

Joint session with Sections on Public Health and Hygiene; and Pediatrics.

(For Complete Program, See Section on Public Health and Hygiene.)

THURSDAY MORNING, MAY 20, 1943
Grand Ball Room, Palmer House

Joint session with Sections on Medicine; Surgery; Public Health and Hygiene; Radiology; and Pediatrics.

(For Complete Program, See Joint Sessions.)

RULES GOVERNING PRESENTATION OF PAPERS

"All papers read by members shall be limited to twenty minutes, and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

"All papers read before the Society or any of its Sections shall become the property of the Society. Each paper shall be deposited with the Secretary of the Section when read and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance of the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the Illinois Medical Journal.

"A paper not heard in its scheduled turn shall be held subject to call of the Chairman of the Section at the end of the regular session if time permits, or as an alternative at the end of the program.

"All discussions shall be confined strictly to the subject in hand.

"No paper shall appear in the printed transactions of the meeting unless read in full or in abstract."

(From the By-Laws of the Illinois State Medical Society.)

Programs of Special Organizations

SECRETARIES' CONFERENCE

R. T. Pettit Chairman
P. J. McDermott Vice-Chairman
Fred H. Muller Secretary

TUESDAY EVENING, MAY 18, 1943
Private Dining Room No. 14, Palmer House

The Secretaries' Conference will be held Tuesday evening at 6:00 o'clock, in Private Dining Room No. 14, Palmer House, Chicago.

The following program has been arranged which should prove of particular interest at this time.

"The Japanese as I Knew Them", The Honorable H. H. Thomas, British Consulate General, Chicago.

"Latest Developments in Procurement and Assignment Service" Charles H. Phifer, Chairman, Sixth Service Command, Procurement and Assignment Service, Chicago.

ILLINOIS SOCIETY OF PATHOLOGISTS

Israel Davidsohn, President Chicago
W. O. Brown, Secretary Chicago

TUESDAY MORNING, MAY 18, 1943
Private Dining Room No. 18, Palmer House

9:00 "Duties of a Pathologist in a Naval Hospital."
J. J. Kearns, Lieutenant Commander, M.C. USNR.

"Duties of a Pathologist in the Public Health Service."
Joseph Lubitz, Assistant Surgeon, U.S.P.H.S.

"Food Poisoning."
Gail Monroe Dack, Chicago.

"Studies on Pathologic Physiology of Burns."
H. Necheles and William Olson, Chicago.

"The Use of Gelatin as a Blood Substitute."
Howard C. Hopps, Chicago.

A business meeting will be held at the close of the scientific session.

SEMINAR

Northwestern University Medical School, 303 E. Chicago Avenue, Room 659, at 2:00 p.m. Cases and microscopic slides will be presented by members. The Seminar is limited to members of the Illinois Society of Pathologists.

MEDICAL WOMEN'S ASSOCIATION

The Annual Breakfast of the women members of the Illinois State Medical Society will be held at the Palmer House in room 18 at 8:30 A. M., May 19th. The Annual Clinical Meeting will be held at the Women's and Children's Hospital that afternoon at 2:00 P. M., followed by tea at 4:30 P. M.

MEDICAL ALUMNI ASSOCIATION, UNIVERSITY OF ILLINOIS

The Medical Alumni Association of the University of Illinois will hold an annual luncheon at the Palmer House on May 19th, Wednesday, at 12 noon. An interesting program is planned. Due to food restrictions, reservations will be required. Please mail $2.00 to cover cost per plate. Guests are invited. Dr. George W. Post will preside.

Dr. M. H. Streicher, Secretary-Treasurer
1853 W. Polk Street, Chicago, Illinois

PHYSICIANS' ASSOCIATION DEPARTMENT OF PUBLIC WELFARE STATE OF ILLINOIS

H. B. Fitzjerrell President
Ethel A. Chapman Secretary-Treasurer

TUESDAY MORNING, MAY 18, 1943
Private Dining Room 14

9:00-12:00

"The Pathology of Chronic Alcoholism with Special Reference to the Nervous System."
W. R. Kirschbaum, Manteno.

The general pathological effects of chronic alcoholism on the body are difficult to evaluate. They rarely present an adequate cause of death. Chronic alcoholism with unspecific irritation of the gastro-intestinal tract and a frequently found liver disease paves the way for metabolic disorders. Complications from other bodily organs, among them the nervous system, may develop. The structural changes in the central nervous system are not very significant. No specific brain pathology of chronic alcoholism exists although a few fairly suggestive findings (Wernicke's disease, hemorrhagic pachymeningitis) occur.

The pathology of chronic alcoholism is shown on 30 subsequent autopsies of different ages. Statistical data of the main and contributary causes of death are given. The gross and microscopical findings on 18 brain autopsies present known and unusual findings. These will be shown in photographs and the very complex problem of the pathologic process will be discussed.

Discussion opened by A. Weil, Chicago.

"Nervous and Mental Manifestations Observed in Spontaneous Hypoglycaemia."
Alan A. Lieberman and Henry G. Lonsdale, Elgin.

The authors present a case of chronic hypoglycaemia due to pancreatic adenoma with neurological and psychotic manifestations over a period of three years, and now submitted as recovered in all aspects twenty months following surgical extirpation of the pancreatic tumor. Emphasis is placed upon the remarkable reversibility of cerebral reactions in such chronic states of hyperinsulinism. Two additional cases of functional and endocrine spontaneous hypoglycaemia with development of nervous and mental symptoms are presented as recovered upon dietary management. Since hypoglycaemic states may simulate any and all varieties of nervous and mental disorders, the authors regard glucose tolerance studies as essential wherever fluctuations in the degree of conscious awareness are apparent.

Discussion opened by S. Soskins and B. Hilkevitch, Chicago.

"Cranial Anomalies."
H. Josephy, Lincoln.

The term feeblemindedness "with cranial anomalies" is used in outlines for the clinical classification of oligophrenia as a designation for a group which is characterized by an abnormal shape or size of the head. This term covers a variety of entirely different conditions, syndromes and pathological findings. Oxycephaly and hypertelorism are genuine cranial anomalies. The skull is malformed primarily and the brain may be affected secondarily. Hydrocephaly, macrocephaly and microcephaly have a cranial anomaly which is caused by the abnormal size and shape of the brain. The cranial anomaly in these cases is secondary and irrelevant, except for the fact, that it suggests the anomaly of the brain. Neither hydrocephaly nor microcephaly are morbid entities. It will be demonstrated that microcephalics show a very diversified pathology. "Cranial anomalies" should disappear from the outlines, and the term should be replaced by more appropriate and exact classifications.

Discussion opened by R. Mackay and B. Lichtenstein, Chicago.

"Prevention of Hemorrhages in the Brain in Experimental Electric Shock."
G. Heilbrunn. Chicago.

The occurrence of hemorrhages in the central nervous system of experimental animals following electrically induced convulsions gained additional practical significance by recent reports of similar hemorrhages in the human brain. A search for appropriate preventive measures to forestall the appearance of such lesions appeared therefore obligatory. Preparatory injections of atropine, Vitamin K, calcium, hemagulen, and various combinations of the latter three prior to electrically induced convulsions failed to prevent hemorrhages in the brains of experimental rats. From the fact, however, that no hemorrhages were seen in animals in which convulsions had completely been prevented by ether narcosis, it was concluded that the pressure changes accompanying the convulsion and not the current itself represent the causative factor in the formation of these lesions.

Discussion opened by E. Liebert, Elgin.

"A Study on the Results of Electric Shock Treatment."
R. Gronner, Elgin.

An attempt is made to evaluate electric shock therapy on a non-statistical basis merely by isolating outstanding features common to the majority of cases without regard to the diagnosis. The significance of changes in the clinical picture during treatment is discussed and an attempt made to establish a working hypothesis on the mechanism of convulsive treatment based on organic and psychological factors alike.

Discussion opened by C. F. Read, Elgin; and G. Piers, Chicago.

"The Influence of the Draft on the Formation of Psychoses in Women."
M. Wallenberg, Manteno.

Among the female admissions to the Manteno State Hospital during the last year, a number of cases were observed, who, according to the information, became acutely psychotic coincidental with the draft of sons, husbands or other near relatives. The case histories of twelve such patients were studied, and by getting more objective and subjective information the following became apparent:

While the pending or actual draft of beloved persons was contributory to the outbreak of the acute psychosis in several cases, it could in none be regarded as the sole causative agent. It was frequently found that the objective information which had stressed the factor of the draft as being responsible for the mental breakdown was contradicted by the findings at the exploration of the patient herself. It was found that in many cases the emphasizing of the emotional upset about the draft was merely a rationalization and presented a displacement from partially unconscious conflicts. Two women who broke down with a severe psychosis after the draft and actual separation from their sons showed signs of organic brain disease. The findings in the twelve cases show that also during an extraordinary emotional stress the total personality is reacting according to the whole physical and mental set-up and according to previous experiences and conscious and unconscious conflicts.

Discussion opened by C. Sommer, Chicago.

"A Rorschach Study of Symptomatic Schizophrenia Following Brain Trauma."
J. A. Endacott, Manteno.

This paper is concerned with a psychosis following a childhood brain trauma. The Rorschach analysis is made with particular reference to a differential diagnosis between true Paranoid Schizophrenia and a psychosis resulting from frontal lobe injury; certain implications of the function of the frontal lobes are discussed.

Discussion opened by M. Goldberg, Chicago; and P. Wittman, Elgin.

JOINT MEETING

CENTRAL STATES SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY, CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY

INDUSTRIAL HEALTH CONFERENCE

TUESDAY, MAY 18, 1943 — 9:00 a.m.
Red Lacquer Room, Palmer House

Presiding: C. O. Sappington, President, Central State Society of Industrial Medicine and Surgery.
Clarence W. Hennan, President, Chicago Society of Industrial Medicine and Surgery.

Program Chairmen: James J. Callahan.
Thomas E. Browning.

Address of Welcome, Clarence W. Hennan, Chicago. (President Chicago Society of Industrial Medicine and Surgery.)

Industrial Health and the Employer, Mr. George P. Wardley, Assistant Vice-President, Industrial Relations Department, Carnegie-Illinois Steel Company, Chicago.

Labor's Attitude on Industrial Health, Mr. James Crosser, Chief Chemist, Industrial Hygiene Division, Illinois State Department of Labor, Chicago.

Industrial Health and the Industrial Physician, Harold Vonachen, General Medical Director, Caterpillar Tractor Company, Peoria.

President's Address (Central States Society).

Industrial Health — Its War and Post-War Significance, C. O. Sappington, Chicago.

General Discussion.

TUESDAY AFTERNOON, MAY 18, 1943
Red Lacquer Room, Palmer House

JOINT SESSION WITH SECTION ON SURGERY

For Complete Program, See Section on Surgery.

MEETINGS OF THE HOUSE OF DELEGATES

TUESDAY AFTERNOON, MAY 18, 1943
Foyer of the Grand Ball Room, Palmer House

3:00 The first meeting of the House of Delegates called to order by the President, Edward H. Weld, for Reports of officers, Councilors, Committees, Appointment of Reference Committees, Introduction of Resolutions, and for the transaction of other business which may come before the House.

THURSDAY MORNING, MAY 20, 1943
Red Lacquer Room, Palmer House

9:00 The second meeting of the House of Delegates called to order by the President for the Election of Officers, Councilors, Committees, Delegates and Alternates to the American Medical Association, Reports of Reference Committees and action on same, action on Resolutions, and for the transaction of other business to come before the House.

ALUMNI LUNCHEON

Several medical schools have arranged alumni luncheons to be held in the Palmer House, at noon, Wednesday, May 19. Tickets and complete information will be available at the Registration Booth, and also may be purchased from members of their respective committees. Short but snappy programs are being arranged for each of these functions.

VETERANS' SERVICE DINNER

TUESDAY, MAY 18TH — 6:00 P. M.

The Annual Dinner of the Veterans Service Committee will be held Tuesday evening May 18th at 6:00 P. M.

Speaker: Col. Don G. Hilldrup, Chief of the Medical Branch — Sixth Service Command.

Meeting will adjourn in time for members to attend the Oration in Medicine.

FIFTY YEAR CLUB LUNCHEON

Dr. Andy Hall as chairman of the Fifty Year Club, has arranged an interesting luncheon conference for this group to be held Wednesday noon, May 19th, in the Crystal Room of the Palmer House.

Announcements have been sent to all members, and all other physicians caring to attend, will be welcome.

Program

Andy Hall, Chairman, Presiding
Address of Welcome
Isaac Abt, Chicago
James B. Herrick, Chicago
Responses:
E. B. Montgomery, Quincy
Carl E. Black, Jacksonville

PRESIDENTS' DINNER

This dinner honoring the retiring president, and with past presidents of the Illinois State Medical Society as guests, will be held in the Grand Ball Room, Wednesday, May 19, at 7:00 P. M.

The dinner program will be short, and as a special feature of the evening, Col. Carlos P. Romulo, the last man off Bataan, will give an unforgettable message to everyone present pertaining to the present war in the far East. Col. Romulo was a member of General Douglas MacArthur's personal staff, and will give a most interesting talk.

Tickets for the dinner will be available at the Registration Booth, and also may be purchased from members of the Committee who will be present at all meetings. The dinner is informal. This means street clothes. Anyone except those at the speaker's table who wears dinner clothes will be fined one $25 War Bond.

DO NOT FAIL TO ATTEND THE PRESIDENTS' DINNER.

MATERNAL WELFARE COMMITTEE LUNCHEON

Private Dining Room No. 18
Palmer House

The annual luncheon of the Maternal Welfare Committee of the Illinois State Medical Society, will be held at the Palmer House at 12:00 noon, Wednesday, May 19, 1943.

T. B. Williamson, Chairman of the Committee, will preside and immediately following the luncheon service, a round table discussion on "The Newer Developments in Obstetrics" will be presented by Frederick H. Falls, Chicago; Milton E. Bitter, Quincy; and Joseph T. O'Neill of Ottawa.

FOR YOUR CONVENIENCE

The 103rd Annual Meeting of the Illinois State Medical Society on May 18, 19 and 20 at the Palmer House has arranged to keep you in touch with home and practice. Agnes Jones, Physicians Extension Secretarial Service, will have her well trained operators on duty near the entrance to the Exhibition Hall. Look for identifying signs. Then avail yourself of the service by reporting your room location, your anticipated meetings, and where you are going. Do this two or three times during the day, and the cooperation will pay in dividends.

No details will be omitted to make this meeting memorable. Navy Day (May 18) and Army Day (May 19) will provide the latest military medicine. Golf and the Presidents' Dinner will promote the social spirit we all need. Make your reservations early.

GOLF TOURNAMENT

A perfect warm up for the Illinois State Medical Society meeting at the Palmer House this year will be eighteen holes of golf at the Edgewater Country Club on the morning of May 18th. Your golf committee have attended to every detail, so that you may play promptly and return to the Palmer House in time for the afternoon sessions. A substantial amount of money allocated to attractive prizes may be the possession of the sharpshooters.

Edgewater Country Club is about a thirty minute drive from the Palmer House. Come early and your golf chairman will meet you at the first tee.

Robert E. Cummings, M. D., Chairman
Herbert Schmitz, M. D.
Eugene McEnery, M. D.
Robert Hawkins, M. D.
G. E. Johnson, M. D.

WOMEN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

ADVISORY COMMITTEE

Dr. Frank P. Hammond, Chairman Chicago
Dr. Rollo K. Packard Chicago
Dr. Harold M. Camp Monmouth
Dr. S. E. Munson Springfield
Dr. M. G. Carpenter Elgin

Parliamentarian, Mrs. Clarence Goodwin .. Chicago

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Mrs. E. W. Burroughs, Recording Secretary Shawneetown
Mrs. Harry Otten, Past President Springfield

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Mrs. Lucius Cole, 3rd District River Forest
Mrs. T. Johnston, 3rd District Chicago
Mrs. D. E. Meier, 4th District Kewanee
Mrs. L. N. Hamm, 5th District Lincoln
Mrs. H. M. Swanberg, 6th District Quincy
Mrs. H. E. Snow, 7th District Centralia
Mrs. S. M. Hubbard, 8th District Ridge Farm
Mrs. W. E. Stanelle, 9th District .. New Shawneetown
Mrs. C. C. Kane, 10th District East St. Louis
Mrs. Mat Bloomfield, 11th District Joliet

CHAIRMEN OF STANDING COMMITTEES

Archives—Mrs. V. R. Vanstane Chicago
Bulletin—Mrs. John Soukup Chicago
Convention—Mrs. C. W. Stigman Chicago
Credential and Registration—Mrs. C. C. Kane East St. Louis
Finance—Mrs. William Raim Oak Park
Hygeia—Mrs. W. C. Bornemeier Chicago
Legislation—Mrs. P. C. Bucy Chicago
Organization—Mrs. M. A. Nix Princeton
Press and Publicity—Mrs. J. E. McGuiggan . Chicago
Printing—Mrs. H. B. Henkel Springfield
Program—Mrs. A. F. Gareiss Chicago
Public Relations—Mrs. V. N. Seron Joliet
Revisions—Mrs. Rollo K. Packard Chicago

WOMEN'S AUXILIARY PROGRAM

All General Meetings and Social Activities are Open to All Doctors' Wives

TUESDAY, MAY 18, 1943

9:00 A.M. Registration — Palmer House Club Rooms

10:00 A.M. Pre-Convention Board Meeting — Room 11
Mrs. W. J. Wanninger, President, presiding

12:00 Noon Adjournment

1:30 P. M. General Meeting — Palmer House Club Room
Invocation — The Rev. Richard D. Taylor, Rector, Church of the Messiah, Chicago
Welcome — Mrs. C. W. Stigman, Convention Chairman
Response — Mrs. A. I. Edison, President, Woman's Auxiliary to the Chicago Medical Society
General Meeting — Mrs. W. J. Wanninger, President, presiding
Report: Credentials and Registration Committee
Mrs. C. C. Kane, Chairman

3:00 P. M. WOMEN AND A WORLD AT WAR — Dr. W. W. Bauer, Director, Bureau of Education, American Medical Association

6:00 P. M. Dinner — Palmer House, Club Room
Mrs. Alfred P. Gareiss, Chairman
Mrs. R. E. Johnson
Mrs. A. J. Weigen
Mrs. T. Johnston
Mrs. N. Dykstra
Mrs. M. R. Hadden
Greetings — Dr. E. H. Weld, President, Illinois State Medical Society
Guest Speaker — Dr. J. P. Simonds, Past President, Chicago Medical Society
Honored Guests — Mrs. G. Henry Mundt, Past President and organizer of the Women's Auxiliary to the Illinois State Medical Society
Mrs. Rollo K. Packard, Past National President
Introduction of Honored Guests, Officers, and Committees.
Program: Mrs. C. W. Stigman, Chairman
Miss Lois Wallner, Soprano
Mrs. Earl Wilkie, Baritone
Miss Isabel Ebert, Accompanist
Miss Dolly Lane, Dancer

ALL DOCTORS' WIVES AND GUESTS INVITED

WEDNESDAY, MAY 19, 1943

9:00 A.M. Registration — Palmer House, Red Lacquer Room

9:30 A.M. General Meeting
Mrs. W. J. Wanninger, President, presiding
Memorial Services — Mrs. P. P. Youngberg, Chairman

10:00 A.M. Final Reports

10:30 A.M. Symposium — PROBLEMS OF THE AUXILIARY, Mrs. Frank P. Hammond, Presiding

11:30 A.M. Final Report: Credentials and Registration
Mrs. C. C. Kane, Chairman
Resolutions: Mrs. L. D. Evans, Chairman

12:30 P. M. Presidents' Luncheon — Foyer, Fourth Floor
Mrs. W. J. Wanninger, President, presiding
Mrs. A. I. Edison, Chairman
Introduction of Past State Presidents and Guests.
Greetings — Dr. Frank P. Hammond
Address: Lt. Commander H. P. Saunders

2:00 P. M. Post-Convention Meeting — Room 9
Mrs. M. A. Nix, President, presiding

2:30 P. M. Tea and Tour, N. B. C. Studio, Merchandise Mart
Mrs. Frederick Tice, Chairman

Mrs. R. K. Packard	Mrs. J. S. Nagel
Mrs. R. S. Berghoff	Mrs. L. B. Joslyn

WEDNESDAY, MAY 19, 1943

Presidents' Luncheon — 12:30 P.M.
Mrs. Arthur I. Edison, Chairman

Mrs. M. R. Hadden	Mrs. H. I. Meyer
Mrs. N. Dykstra	Mrs. A. J. Linowiecki
Mrs. H. Christiansen	Mrs. E. M. Egan
Mrs. R. E. Johnson	Mrs. T. Johnston
Mrs. M. M. Hipskind	Mrs. A. J. Weigen

ALL PAST PRESIDENTS — HONORED GUESTS

2:30 P. M. Tea and Tour, N. B. C. Studio, Merchandise Mart

SCIENTIFIC EXHIBITS

Frank J. Jirka, Chairman Chicago
H. Close Hesseltine, Director of Exhibits ... Chicago

"The Value of Mice in Cancer Research"
The Women's Field Army of the American Society for the Control of Cancer

"Epidemic Kerato-Conjunctivitis."
G. Henry Mundt, Chicago

"Diseases of the Thyroid Gland"
Arnold S. Jackson and Luther E. Holmgren, The Jackson Clinic, Madison, Wisconsin.

"Health Protection in War Industries."
Roland R. Cross, Director, Department of Public Health, State of Illinois, Springfield.

"Illinois Department of Public Health at War."
Robert S. Berghoff, Chairman, Illinois Board of Public Health Advisors, Illinois Department of Public Health, Chicago.

"Syphilis and War."
Roland R. Cross, Director, Department of Public Health, State of Illinois, Springfield.

"Visual Education in Obstetrics"
Roland R. Cross and Frederick H. Falls, Department of Public Health, State of Illinois, Springfield.

"Basal Anesthesia with Pentothal Sodium."
M. L. Weinstein, Geraldine Light and Vera Kable, Chicago.

"Caterpillar Tractor Company Health Program During Time of War."
Harold A. Vonachen, Peoria.

"Intra-Capsular Fractures of the Neck of the Femur."
A. A. Mertz, Decatur.

"Skeletal Traction for Forearm Fractures."
John D. Ellis, Chicago.

"Medical Care Program of the Division of Public Assistance."
Mr. Rodney H. Brandon, Director, Department of Public Welfare, State of Illinois, Springfield.

"Modified Paris Technique of Radium Therapy for Uterine Cervical Cancer."
Harold Swanberg, Quincy X-Ray and Radium Laboratories, Quincy.

"Anatomical Presentation of Bronchial Tree From Endoscopic Standpoint."
E. W. Hagens, Department of Otolaryngology, Northwestern University Medical School, Chicago.

"Studies on Kidney Function. Extravasation of Urine. Bladder Regeneration."
V. Lespinasse and Victoire Lespinasse, Department of Urology, Northwestern University Medical School, Chicago.

"Pharmaceutical Preparations of the Newer Therapeutic Agents."
Mr. Lawrence Templeton, University of Illinois College of Pharmacy, Chicago.

"Hemorrhage"
F. H. Falls and Miss C. S. Holt, University of Illinois College of Medicine and the Illinois Department of Public Health, Chicago.

"Processing Blood Plasma for the Army and Navy."
Mr. George R. Ryan, Abbott Laboratories, North Chicago.

"Rheumatic Fever."
Metropolitan Life Insurance Company, New York.

"Oral Manifestations of Occupational Origin."
I. Schour, D.D.S., and B. G. Sarnat, D.D.S., University of Illinois, Chicago.

"Chicago Venereal Disease Control Program."
Herman N. Bundesen, President, Chicago Board of Health, Chicago.

"Pyelography in Retroperitoneal Tumors in Children."
K. E. Barber, Children's Memorial Hospital, Chicago.

"Unifying Medical Services in Lake County." — A Plan and Practice Using Navy, Army, Veterans Administration, Industrial and Civilian Medical Personnel and Material.
George B. Callahan, Waukegan.

"Information about Industrial Health."
Council on Industrial Health, American Medical Association, Chicago.

"Erythroblastosis Fetalis."
Edith L. Potter and F. L. Adair, Chicago Lying-In Hospital, and Illinois Department of Public Health, Chicago.

"Procurement and Assignment Service for Physicians."
Charles H. Phifer, Chairman, Sixth Service Command, Chicago.

"Medical Profession in Civilian Defense."
H. L. Pettitt, L. H. Gaston, John S. Coulter, Sixth Civilian Defense Region, Chicago.

"Sanitary and Public Health Engineering Problems in Civilian Protection."
Mr. Wm. H. Cary, Jr., Regional Sanitary Engineer, Sixth Civilian Defense Region, Chicago.

"Congenital and Developmental Malformations of the Mandible."
V. P. Blair and L. T. Byars, Dept. of Surgery, Washington University School of Medicine, St. Louis, Mo.

"Health for Victory Club."
Westinghouse Electric & Manufacturing Company, Mansfield, Ohio.

Technical Exhibitors

Abbott Laboratories, North Chicago, Illinois
American Hospital Supply Corporation, Chicago, Illinois
The Armour Laboratories, Chicago, Illinois
Ayerst, McKenna & Harrison, Rouses Point, New York
The Biochemical Research Laboratories, Chicago, Illinois
Bilhuber-Knoll Corporation, Orange, New Jersey
Ernest Bischoff Company, Inc., Ivoryton, Connecticut
The Borden Company, New York, New York
Burroughs Wellcome & Company, Inc., New York, New York
Cambridge Instrument Company, Inc., New York, New York
Camel Cigarettes, New York, New York
Cameron Surgical Specialty Company, Chicago, Illinois
Carnation Company, Milwaukee, Wisconsin
Chicago Pharmacal Company, Chicago, Illinois
Ciba Pharmaceutical Products, Inc., Summit, New Jersey
F. A. Davis Company, Philadelphia, Pennsylvania
DePuy Manufacturing Company, Warsaw, Indiana
Doak Company, Incorporated, Cleveland, Ohio
The Doho Chemical Corporation, New York, New York
Eli Lilly and Company, Indianapolis, Indiana
C. B. Fleet Co., Inc., Lynchburg, Virginia
Flint Eaton & Co., Decatur, Illinois
General Electric X-Ray Corp., Chicago, Illinois
Gerber Products Company, Fremont, Michigan
Otis E. Glidden & Co. Inc., Evanston, Illinois
H. J. Heinz Company, Pittsburgh, Pennsylvania
Hoffman-La Roche Inc., Nutley, New Jersey
Horlick's Malted Milk Corporation, Racine, Wisconsin
Kellogg Company, Battle Creek, Michigan
The Kelley-Koett Mfg. Co., Inc., Covington, Kentucky
Lederle Laboratories, Inc., New York, New York
Libby, McNeill & Libby, Chicago, Illinois
J. B. Lippincott Company, Philadelphia, Pennsylvania
Mead Johnson & Company, Evansville, Indiana
The Medical Protective Company, Fort Wayne, Indiana
Mellin's Food Company, Boston, Massachusetts
The Wm. S. Merrell Company, Cincinnati, Ohio
The C. V. Mosby Company, St. Louis, Missouri
M. & R. Dietetic Lab., Inc., Columbus, Ohio
V. Mueller & Company, Chicago, Illinois
Nutrition Research Laboratories, Chicago, Illinois
Parke, Davis & Company, Detroit, Michigan
The E. L. Patch Co., Stoneham, Massachusetts
Pet Milk Sales Corp., St. Louis, Missouri
Petrogalar Laboratories, Inc., Chicago, Ill.
Philip Morris & Co., Ltd., Inc., New York, New York
Picker X-Ray Corporation. New York, New York
The Proctor and Gamble Company, Ivorydale, Ohio
Riedel — deHaen, Inc., New York, New York
W. B. Saunders Company, Philadelphia, Pennsyl-
Schering Corporation, Bloomfield, New Jersey
Sharp & Dohme, Philadelphia, Pennsylvania
Smith, Kline & French Laboratories, Philadelphia, Pennsylvania
S.M.A. Corporation, Chicago, Illinois
E. R. Squibb & Sons, New York, New York
vania
Frederick Stearns & Company, Detroit, Michigan
Sutliff & Case Co., Inc., Peoria, Illinois
White Laboratories, Inc., Newark, New Jersey
Winthrop Chemical Company, Inc., New York, New York
John Wyeth & Brother, Inc., Philadelphia, Pennsylvania
Zimmer Manufacturing Co., Warsaw, Indiana

NOTES ON TECHNICAL EXHIBITS

ABBOT LABORATORIES, Booth 81

Not for nothing has the Abbot Laboratories been awarded the Army-Navy E award which has recently been renewed by the addition of a star indicating sustained merit in the war effort.

Not for nothing has Abbott Research products been Council-Accepted so extensively. We point, we think, with pardonable pride to the evidence of quality shown in this wide council acceptance.

Abbot-Trained Representatives in attendance eagerly await an opportunity to discuss with you the wide assortment on display, including some of the very new specialties.

Please! Consider this a hearty invitation to visit our booth.

AMERICAN HOSPITAL SUPPLY CORPORATION, Booth No. 14

On display in Booth 14, occupied by American Hospital Supply Corporation, will be two new items of especial interest to all hospital people. Biodyne, the new healing agent for burns which has had so much favorable clinical comment, and Derma-Fresh, the body-rub which is so superior to hard-to-get alcohol.

Demonstrations of the E and J Resuscitator and a complete presentation of the Baxter Intravenous Therapy program will also be featured at the American booth.

THE ARMOUR LABORATORIES, Booths Nos. 87 and 88

A cordial invitation is extended to members of the Illinois State Medical Society to visit their exhibit in booths Nos. 87 and 88. The physicians will find an interesting exhibit on Thyroid. Case reports of thyroid deficiencies will be exhibited by means of wax models depicting cases of thyroid deficiencies before and after treatment. Armour's new and complete booklet on Thyroid also awaits you at the exhibit

AYERST, McKENNA & HARRISON (UNITED STATES) LIMITED, Booth No. 33

Naturally occurring orally-active estrogenic hormones, "Premarin" and "Emmenin", the origination of which figures prominently in the background of Ayerst, McKenna & Harrison, will be given precedence in their display.

"Premarin", which culminates a ten years' search for a highly potent natural estrogen for oral administration, will be of particular interest. Reprints of original papers on the clinical value of this new product, by nationally prominent investigators, will be made available to interested members of the medical profession at the Ayerst booth.

BILHUBER-KNOLL, Booth No. 80

The "Council Accepted" prescription chemicals of Bilhuber-Knoll find an important place in war-time medicine because of their proved effectiveness and dependability. Metrazol — the respiratory and circulatory restorative; Theocalcin diuretic and myocardial stimulant; and Dilaudid-analgesic and cough sedative are receiving increasing use by the Army, Navy, and other governmental agencies. Art Murbach and Basil Kidwell will be on hand to discuss the latest reports on these and other well-known medicinal chemicals, including Phyllicin, Euresol and Bromural.

THE BIOCHEMICAL RESEARCH LABORATORIES, Booth 17

At our booth we intend to display our products and to discuss them with doctors who are interested.

ERNST BISCHOFF COMPANY, INC., Booth No. 13

In our exhibit we shall feature Lobelin-Bischoff, respiratory stimulant and resuscitant in Asphyxia neonatorum; Anayodin, an effective, nontoxic amebacide; Diatussin and Diatussin Syrup, antispasmodic; Activin, a foreign protein for nonspecific therapy; Viscysate, for the symptomatic relief of Hypertension; Sas-Par, antipruritic, Oral treatment for Psoriasis.

THE BORDEN COMPANY, Booth 93

Today, with more American babies to be fed than ever before, The Borden Company is resolved to use every available resource to maintain an unfailing supply of scientific formula foods which provide the well balanced nutrition so essential in early life. These include Biolac, New Improved Dryco, Mull-Soy, Klim, Merrell-Soule Powdered Milks, and Borden's Irradiated Evaporated Milk.

BURROUGHS WELLCOME & COMPANY (U.S.A.) INC., Booth No. 99

BURROUGHS WELLCOME & CO. (U. S. A.) INC., New York (Booth No. 99) presents a representative group of fine chemicals and pharmaceutical preparations, together with new and important therapeutic agents of special interest to the medical profession.

CAMBRIDGE INSTRUMENT COMPANY, Booth No. 9

The great increase in cardiac cases due to anxiety and overwork incidental to the times, makes the Cambridge Instrument Company exhibit of cardiac diagnostic instruments particularly timely. In Booth No. 9 they will feature as part of a complete exhibit of Cardiac Diagnostic instruments, the compact, lightweight, portable "Simpli-Trol" model Electrocardiograph-Stethograph that produces electrocardiogram and stethogram separately or simultaneously. Cambridge Electrocardiographs for large or small hospital, research laboratory, clinic or private office, will also be demonstrated at this exhibit.

CAMEL CIGARETTES, Booths 3 and 4

CAMEL Cigarettes will exhibit large detailed photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. Representatives will be available to discuss research. See for the first time the dramatic visualization of nicotine absorption from cigarette smoke in the human respiratory tract. Keep up to the minute on international news with the CAMEL Cigarette Trans-Lux "Flash Bulletins," while you enjoy a supply of slow-burning CAMEL Cigarettes.

CAMERON SURGICAL SPECIALTY COMPANY, Booth No. 78

See the Cameron Flexible Gastroscopes, Bronchoscopes, Esophagoscopes, Laryngoscopes, Binocular Prism Loupe, Color-Flash Clinical Camera, Mirrolite, Magniscope, and other new developments in electrically lighted Diagnostic and Operating Instruments for all parts of the body. Of special interest are the new Electro Surgical Units (the genuine Radio Knives) for cutting, coagulating, desiccating and fulgurating in all sizes from the office model Cauteradio to major Hospital Units with abundance of power for radical surgery.

CARNATION COMPANY, Booth 101

Be sure to visit the Carnation Company exhibit in Booth No. 101. There you will see displayed an interesting model of the famous Carnation Milk Farm where cattle breeding and feeding experiments are carried on for the purpose of improving the dairy herds supplying the many Carnation evaporating plants. The story of the careful processing of Irradiated Carnation Milk is also told in an interesting manner.

CHICAGO PHARMACAL COMPANY, Booth No. 1

We will exhibit a complete pharmaceutical line which includes ampuls, tablets, friable pills, ointments, suppositories, elixirs, syrups and sterile solutions. Catalogs and samples will be distributed. Mr. B. M. Cahill will be in charge, assisted by local representatives. Our firm established in 1900 caters exclusively to the medical profession.

CIBA PHARMACEUTICAL PRODUCTS, INC., Booth No. 107

Physicians are cordially invited to visit booth number 107 where the well-known products of Ciba Pharmaceutical Products, Inc. are on display. Three new additions to the fine line of Ciba pharmaceuticals merit your attention. They are: Biotose, Trasentine-Phenobarbital and Privine. A well-informed representative of the company will be in attendance to supply information on any Ciba preparation.

F. A. DAVIS COMPANY, Booth 83

You carry Life and Accident Insurance to protect your family, Fire Insurance to protect your property, Automobile Liability and Medical Protective Insurance to protect your savings. Thirty thousand doctors have already **insured** their professional future by purchasing "The Cyclopedia of Medicine, Surgery and Specialties." Better insurance is not obtainable. See the new edition at Booth 83.

DEPUY MANUFACTURING COMPANY, Booth No. 2

"We are pleased to submit to the Surgeons of the Illinois State Medical Society Lorenzo Hip Screw and the Pease Bow with the Thomson Beaded Wire. These are two items which have attracted a great deal of attention among the surgeons over the country and we are pleased to exhibit these appliances at your meeting. Call at our booth No. 2."

DOAK COMPANY INCORPORATED, Booth No. 82

DOAK, DIASPORALS
in
DERMATOLOGY
INDUSTRIAL DERMATITIS
and its
PREVENTION
Cleveland, Ohio
Samples on Request.

THE DOHO CHEMICAL CORPORATION, Booth No. 72

The Auralgan Exhibit consists of a model of the human auricle four feet high together with a series of twenty-four three dimensional ear drums, modelled under the supervision of outstanding otologists. Each of these drums depict a different pathologic condition based upon actual case observation, and prepared, in so far as possible, with strict scientific accuracy so as to be highly instructive and interesting to all physicians.

ELI LILLY AND COMPANY, Booth No. 65

The Lilly exhibit is presented as a mark of respect for the Illinois State Medical Society. Many Lilly products will be shown and attending Lilly medical service representatives will be pleased to aid physicians whenever possible.

C. B. FLEET CO., INC., Booth No. 7

PHOSPHO-SODA (FLEET)

An ethical product for over half a century — a saline eliminant.

What may you, as a physician, expect from this stable, non-toxic concentrate of the two U. S. P. sodium phosphates?

1. Accurate dosage, regulated to the patient and to his condition.
2. The maximum therapeutic effectiveness of sodium phosphate.
3. Quick, gripeless evacuation, for emergencies.
4. Mild, controllable elimination, for chronic biliary disturbance or constipation.
5. Unusual freedom from after-irritation, with normalizing buffer action.
6. Safe action with administration of the sulfonamides.

Are you getting the full value of medication in your daily problems of elimination?

FLINT, EATON & COMPANY, Booth No. 61

At Booth No. 61, Flint, Eaton & Company will have representatives to discuss the topical use of the Sulfonamides and show you a new type of insufflator tube for applying these chemotherapeutic agents uniformly to injured areas. In addition, there will be on display such popular Flint, Eaton & Company specialties as Calcium-Gluconate-Effervescent, Thiadin, Vitaplex, Bismuth-Kaolin and many others. A hearty welcome awaits you at Booth No. 61.

GENERAL ELECTRIC X-RAY CORPORATION Booth 105

The General Electric X-Ray Corporation invites you to visit our exhibit and learn first-hand information concerning our service program as well as study our complete line of merchandise for x-ray and electromedical requirements. We shall try to answer all questions and do what we can to make your visit here with us worthwhile.

GERBER BABY FOODS, Booth 95

The complete line of Gerber Baby Foods will be on display. There are two precooked dry cereals, one a wheat, the other an oatmeal cereal, a variety of Strained Foods and of Chopped Foods.

Booklets available for distribution to mothers or patients on special diets as well as professional literature will be sent to registrants, for examination.

OTIS E. GLIDDEN AND COMPANY, INC., Booth No. 67

Be sure to visit Booth No. 67, obtain full information on "IMPROVED ZYMENOL," Brewers Yeast content increased to 45%, mineral oil reduced to 50%. Now more than ever an effective two-fold natural therapy for CONSTIPATION COLITIS AND common DIARRHEA.

DOES NOT CONTAIN any irritant laxative drug. No artificial bulk or roughage. Sugar free.

H. J. HEINZ COMPANY, Booth No. 74

All physicians practicing pediatrics or prescribing soft diets should see the Heinz display featuring Strained and Junior Foods.

Be sure to register for the 11th edition of the Nutritional Chart, as well as our new Special Dietary Foods booklet and Baby's Diary and Calendar.

HOFFMAN-LA ROCHE INC., Booth No. 77

War shortages of atropine and belladonna have greatly increased physicians' interest in Syntropan. This ani-spasmodic will be one of the featured products in the Roche exhibit.

The many uses for which PROSTIGMIN has proven to be effective will also be described by representatives of the Roche Medical Division, who will be in attendance.

There will also be other pharmaceutical prescription specialties of rare quality that emanate from Roche Park where vitamins by the ton are produced.

HORLICK'S MALTED MILK CORPORATION, Booth No. 12

HORLICK'S MALTED MILK CORPORATION, Racine, Wisconsin (Booth 12) cordially invites you to visit their booth and enjoy a refreshing serving of chocolate malted milk. This palatable, delicious and easily digested food-drink is indicated as a supplement to liquid and semiliquid diets. It is basic nutrition because it is a scientifically well-balanced combination of proteins and carbohydrates of full-cream milk and choice grains.

THE KELLEY-KOETT MANUFACTURING COMPANY, Booth No. 76

The Kelley-Koett Manufacturing Company of Covington, Kentucky, manufacturers of X-ray apparatus, are exhibiting in Space No. 76 this year.

Conservation of existing X-ray equipment is of paramount importance to all physicians and hospitals. KELEKET has worked out a Conservation Plan that is unique and will be of interest to all owners of X-ray equipment. We recommend that you investigate this at their booth.

KELEKET will also show a line of accessories and supply items for the X-ray laboratory and dark room. This entire exhibit promises to be a very interesting one.

The KELEKET exhibit will be in charge of Mr. G. E. Geise, Vice President, assisted by Mr. H. D. Welch, Chicago district manager, Mr. Frank Geiger, Mr. J. F. McManemin, Mr. G. C. Heppe, Mr. G. L. Templar, Mr. P. Schick and other members of our Illinois staff.

THE KELLOGG COMPANY, Booth No. 57

All Kellogg ready-to-eat cereals either are made from whole grains or are restored to whole grain nutritive value.

Kellogg's Pep, (whole wheat flakes), in addition to being restored to whole grain value, has been fortified with Vitamins B_1 and D.

Corn Flakes and Rice Krispies may be included freely in wheat-free and low residue diets. Nutrition folders and further information about these products available at Kellogg exhibit.

LEDERLE LABORATORIES, INC., Booth No. 63

"The Lederle Laboratories will exhibit their complete line of pharmaceutical specialties and biological products, with particular attention to such new items as sulfadiazine ointment, sodium sulfathiazole and sodium sulfadiazine intravenous liquids; the seasonal pollen antigens and all of the important vitamin products."

LIBBY, McNEILL & LIBBY, Booth No. 102

The interesting story of Libby's Homogenized Baby Foods and Evaporated Milk is dramatically presented at Libby's "Little Theatre" which has attracted so much attention at previous conventions. Spectators may see the story of these products in a slide film while they listen in on the dialogue over telephone installed at the booth. Competent representatives will be present to discuss the special advantages of Libby's Homogenized Baby Foods in the infant dietary.

J. B. LIPPINCOTT COMPANY, Booth No. 59

Lippincott's headliner is the new one-volume war edition of Thorek's MODERN SURGICAL TECHNIC. Other important new books: Ferguson's SURGERY OF THE AMBULATORY PATIENT, Strecker's FUNDAMENTALS OF PSYCHIATRY, Kampmeier's ESSENTIALS OF SYPHILOLOGY, and Sappington's ESSENTIALS OF INDUSTRIAL HEALTH.

M & R DIETETIC LABORATORIES, INC., Booth No. 94

"M & R Dietetic Laboratories, Inc., booth number 94, will display Similac, a food for infants deprived partially or entirely of breast milk; also powdered SofKurd. Representatives will appreciate the opportunity to discuss the merit and suggested application of these products."

MEAD JOHNSON & COMPANY, Booths 15 & 16

"Servamus Fidem" means We Are Keeping the Faith. Almost every physician thinks of Mead Johnson & Company as the maker of Dextri-Maltose, Pablum, Oleum Percomorphum and other infant diet materials. But not all physicians are aware of the many helpful services this progressive company offers physicians. A visit to Booths Nos. 15 and 16 will be time well spent.

MEDICAL BUSINESS BUREAU MANAGEMENT, INC., Booth 89

MEDICAL PROTECTIVE COMPANY, Booth No. 18

The Medical Protective Company's representative, thoroughly trained in Professional Liability underwriting, invites you to visit exhibit booth No. 18. He is entirely familiar with the principles of the reciprocal rights and duties of a doctor and patient and with the circumstances peculiar to that relationship. He will be glad to explain how his Company meets the exacting requirements of adequate liability protection, which are peculiar to the Professional Liability field.

MELLIN'S FOOD, Booth 96

An exchange of ideas relative to the feeding of infants and in regard to the nourishment for adults requiring a restricted diet are of much value in view of the importance of selecting food best adapted to the individual requirement.

The Chicago Meeting will afford an opportunity for such discussion with representatives of the Mellin's Food Company and members of the Association are cordially invited to call at Space 96.

WM. S. MERRELL COMPANY, Booth 47

The Merrell exhibit will feature NITRANITOL, for medical management of essential hypertension, the BETA-CON-CEMIN high potency vitamin B complex products, and other modern therapeutic agents of broad usefulness to the practicing physician. Members and guests of the Society are cordially invited to visit the Merrell booth.

C. V. MOSBY COMPANY, Booth 60

New books and new editions which will be displayed by the C. V. Mosby Company include Trueta "Principles and Practice of War Surgery," Titus "Atlas of Obstetric Technic," Howles "A Synopsis of Clinical Syphilis," Barnes "Endoscopic Prostatic Surgery," Major "Fractures of the Jaws," and Schaub-Foley "Methods for Diagnostic Bacteriology." You are cordially invited to inspect these, as well as many other publications of timely interest, at Booth No. 60.

NUTRITION RESEARCH LABORATORIES

NUTRITION RESEARCH LABORATORIES will present three products, all of which are of extreme interest to the medical profession.

ERTRON, electrically activated vaporized ergosterol (Whittier Process) 50,000 U.S.P. units per capsule, continues to gain favor with members of the medical profession because of its therapeutic value in the treatment of chronic arthritis.

BEZON, Whole Natural Vitamin B Complex in capsule form, containing the whole B complex, derived entirely from natural sources and concentrated to a high potency.

PENDRON, the complete vitamin arch, containing all of the vitamins in amounts recommended by official governmental agencies and in addition recently discovered vitamin B factors — Vitamin B6 (Pyridoxine Hydrochloride) and Calcium Pantothenate (Filtrate Factor).

We welcome the opportunity of discussing all three products with members of the Illinois State Medical Society.

PARKE DAVIS & COMPANY, Booth No. 58

At the Parke-Davis Exhibit, which has been streamlined because of present war-time requirements, you will find many new and scientific Pharmaceutical and Biological Products. Included in this display are such outstanding preparations as Phemerol, a non-toxic germicide and antiseptic; Vitamins; Sulfa Drugs; Despeciated Anti-toxins, and a number of other products of timely interest. Able and courteous members of the Parke, Davis & Co. Staff are in daily attendance to serve you.

PET MILK COMPANY, Booths 90 and 91

An actual working model of a milk-condensing plant in miniature will be exhibited by the Pet Milk Company in Booths No. 90 and No. 91. This exhibit offers an opportunity to obtain information about the production of Irradiated Pet Milk, its uses in infant feeding, and the time-saving Pet Milk services available to physicians. Miniature Pet Milk cans will be given to each physician who visits the Pet Milk Booth.

PETROGALAR LABORATORIES, INC., Booth No. 92

Physicians are cordially invited to visit the Petrogalar exhibit at Booth No. 92, where a new and enlightening story on Petrogalar, an aqueous suspension of mineral oil, will be related. Beautifully colored anatomical drawings and new literature may be had upon request from our professional representatives who will be in constant attendance.

PHILIP MORRIS & CO., LTD., INC., Booth No. 64

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

PICKER X-RAY CORPORATION, Booth No. 106

In welcoming visitors to their exhibit, the Picker X-Ray Corporation is pleased to display the U. S. Army Field Unit and the Light-Weight Air-Flow Unit, both of which are in extensive use in the Army.

The Field Unit is designed for Radiography, Fluoroscopy, Superficial Therapy, and Foreign Body Localization.

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Original Articles

TREATMENT OF SHOCK FROM WAR WOUNDS

HENRY N. HARKINS, M.S., M.D., Ph.D., F.A.C.S.
DETROIT

The subject of treatment of shock from war wounds is of vital interest at the present time. Many advances have been made in the therapy of this syndrome during the quarter of a century which has elapsed since the last war. It is wise at this time to take stock of the present status of knowledge of shock.

Shock may be defined as a *progressive vasoconstrictive oligemic anoxia.* Each word in this definition implies a certain therapeutic responsibility. The *progressive* nature of shock indicates *a need* for haste in applying treatment. The *vasoconstrictive* element makes the use of vasoconstrictor drugs a mere symptomatic remedy in many cases, and more or less adds insult to injury. The *oligemic* aspect of shock offers the best lead for therapy and points out the importance of blood replacement therapy. Finally, the *anoxia* so often present in shock, with the associated cyanosis, acidosis, and decreased tissue metabolism argues for a correction of this condition. Such anoxia may be controlled either by furnishing additional oxygen to the lungs or by speeding up the blood flow so that that oxygen which is available will be more quickly transported.

Physiologic Changes in Shock. — The physiologic changes in shock include more than a fall in blood pressure and are shown in Table I. Of all these changes, oligemia is probably the most important and is the underlying factor in the causation of several of the other changes. Thus, the decreased cardiac output is due to the lack of sufficient blood for the heart to propell. The diminished blood flow, in turn, is associated with the decreased cardiac output. Because insufficient blood and oxygen are furnished to the tissues a decreased metabolism, anoxia, and capillary congestion result. The vasomotor center is perfectly well maintained during the early stages of shock, contrary to previous popular opinion, and the blood vessels constrict in an effort to keep the arterial blood pressure near normal in spite of the oligemia. Finally, the decrease in blood volume is too great for the vasoconstrictive capacities of the arterioles to act upon and the later stages of shock ensue. The vasomotor center loses its tone and the blood pressure falls rapidly. If the arterial hypotension persists for more than a short period, treatment is of no avail and the irreversible stage of shock has developed.

TABLE I

Physiologic Changes in Shock.
1. Oligemia.
2. Diminished blood flow.
3. Decreased cardiac output.
4. Fall in arterial blood pressure.
5. Acapnia.
6. Decreased muscle tonus.
7. Decreased venous pressure.
8. Hemoconcentration.
9. Vasoconstriction.
10. Decreased metabolism.
11. Capillary congestion.
12. Hyperpotassemia.

Irreversibility of the Shock Syndrome. — A differentiation between initiating, accompanying, and perpetuating factors in shock is often ar-

From the Division of General Surgery, Henry Ford Hospital, Detroit.

bitrary. Possible perpetuating factors are listed in Table 2. From the practical standpoint, it cannot be pointed out too often that treatment should be begun before the stage of irreversibility ensues. Even before the last war, Pilcher and Sollmann (1914) demonstrated that shock from as simple a cause as hemorrhage is irreversible. These authors found that as dogs are bled, if the blood is reinjected during an early stage of the process, recovery may result, but later, blood pressure "can only be brought back to 60 mm., no matter how much fluid is injected." This conclusion has been substantiated by Blalock (1934), as well as by many other investigators, and applies equally well to shock due to other causes than hemorrhage alone.

TABLE 2

Possible Perpetuating Factors in Shock.

1. Anoxia.
2. Hyperpotassemia.
3. Continued vasoconstriction.
4. Adrenal cortical insufficiency.
5. Action of tissue metabolites or toxins.
6. Nervous factors.

TABLE 3

Oxygen Percentages Obtained by Different Methods
(Note that all are multiples of 15).

Normal alveolar oxygen	15
Nasal catheters	30
Tent (usual)	45
Tent (extreme)	60
B. L. B. Mask	90

General Treatment of Shock. — Much of the older treatment of shock was empiric. Such management included rest, quiet, elevation of the feet, warmth and administration of sedatives, stimulants, and vasospastics. The use of rest, quiet, and elevation of the feet is well substantiated by recent studies, but the application of warmth is of more doubtful value. Blalock (1914) showed experimentally that shocked animals which were kept cool lived longer than those which were kept warm. Until this aspect of the subject has been definitely settled clinically, it would seem best to preserve the patient's own body warmth, but not to *furnish* additional heat. The administration of sedatives, stimulants, and vasospastics is largely empirical and while useful to a certain extent, should not delay the application of more specific therapy.

Two items of specific treatment may prove extremely useful, but are still in somewhat of an experimental stage. These include adrenal cortical extract and oxygen. The effectiveness of various types of adrenal cortical extract may differ considerably and the synthetic desoxycorticosterone may have a different action than the natural extracts. Oxygen is useful in some cases and should be always kept in mind. Mutch (1940) presented a useful method of remembering the amount of oxygen available by the different methods in use. As shown in Table 3, these are multiples of 15. Where only a small amount of oxygen is needed, nasal catheters attached to a Tudor-Edwards spectacle frame are useful. In more serious cases tents or masks are indicated.

The most important element in shock treatment is the restoration of the blood volume to a normal value. As shown by Phemister (1928), Parsons and Phemister (1930), Blalock (1930) and others, the chief initiating factor in most cases of shock is a local loss of fluid from the blood stream. This local loss occurs at the site of the trauma — whether that trauma be mechanical, thermal, or chemical. The type of fluid lost approaches plasma or whole blood in consistency. The loss of such fluid is of far more consequence than that of mere water. The restoration of blood volume is of extreme urgency and is the backbone of all shock treatment. This aspect of the subject will now be considered more in detail under the head of blood and plasma substitutes.

Blood and Plasma Substitutes. — The treatment of shock with such substances involves three problems:

A. The avenue of administration.
B. The amount of fluid to be given.
C. The type of fluid.

These will now be considered in order:

A. *The avenue of administration*

Blood or plasma substitutes may be given in a variety of ways.

(1) *Oral.* This method has the disadvantage of slowness and uncertainty. In the sickest patients it is least satisfactory because of vomiting, gastric retention, and decreased absorption.

(2) *Subcutaneous.* This route is satisfactory

for crystalloids, but not for the more important colloids.

(3) *Intramuscular.* The intramuscular injection of fluids has been used by Billimoria and Dunlop (1940) at the British Postgraduate Medical School, but has not been widely adopted in this country.

(4) *Proctoclysis.* This method is even slower than the oral route, and as shown by Perusse (1932) is unsatisfactory for anything except water, even crystalloids being absorbed in only small amounts.

(5) *Intra-arterial.* Such injections have been used by Davis (1937), Kendrick and Wakim (1939), and Kendrick (1939) for experimental purposes, but so far have had little clinical application.

(6) *Intraosseus.* This method was introduced by Josefson (1934) and has been modernized by Tocantins and O'Neill (1940, 1941), and Henning (1940). The fluid is introduced through a special needle and is usually put into the sternum. This method is especially applicable in children and in cases where intravenous injections are difficult. Tocantins and O'Neill (1941) reported on the results of 52 infusions of from 50 to 2000 cc. to 40 patients without reaction. They concluded: "Either the manubrium or the body of the sternum is the site of election for this procedure. The intramedullary route is indicated whenever a rapid absorption of unchanged substances is desired and the intravenous route is not available."

(7) *Intravenous.* This type of injection is the most widely useful. In difficult cases the saphenous vein at the fossa ovalis (open exposure) or the femoral vein (blind puncture) should be utilized more often.

B. *The amount of fluid to be given.*

This should depend largely on clinical judgement. It should be pointed out that it is no more logical to always give a shocked patient a pint of plasma than to always give a diabetic patient 10 units of insulin. The size of the transfusion should be chosen to fit the patient rather than the donor, several of the latter being used if necessary. An estimation of the amount of blood which has been lost should be made in every case, remembering that this is more apt to be under-than overestimated. A useful rule for calculating the plasma dosage in burns is that of Harkins (1941). This is *to give* 100 *cc. of plasma for every point the hematocrit is above the normal of* 45. This method applies to adults and involves the assumption that the patient's pre-burn hematocrit was normal. For children the amount of plasma is calculated proportionately according to body weight, with the average adult weight set as 70 kilograms. If the plasma protein level is below normal, this method gives too low a value. In such a case an additional 25 per cent of the calculated amount of plasma should be added for every gram the protein level is below 6.0 gm. It is noteworthy, however, that a hypoptroteinemia seldom occurs in an adequately treated burn case and hence this correction seldom has to be applied. Where hemoglobin determinations are used, 40 cc. of plasma should be given for every point the hemoglobin exceeds 100.

C. *The type of fluid.*

It is concerning this aspect of the subject that there is most debate at the present time. This decision is influenced by the needs of the individual patient and the availability of the most suitable fluid. In shock due to hemorrhage, whole blood has been lost and for the most exact replacement, whole blood should be given. In shock due to burns, practically pure plasma has been lost and plasma is the most ideal substitute. In shock due to mechanical trauma and various other agencies, various proportions of

TABLE 4

Blood and Plasma Substitutes Used in the Replacement Therapy of Shock.

1. Glucose solution.
2. Saline crystaloids (normal salt solution, Ringer's solution, Locke's solution, etc.).
3. Ascitic fluid.
4. Gelatin solution.
5. Isinglass solution.
6. Gum acacia.
7. Pectin and other macromolecular blood substitutes.
8. Plasma.
 - (a) Blood bank plasma
 - (b) Dried plasma reconstituted in normal concentration.
 - (c) Dried plasma reconstituted in concentrated form
 - (d) Heterologous (bovine) plasma
 - (e) Calcificated plasma
9. Serum
10. Whole blood.
 - (a) Direct transfusion
 - (b) Citrated fresh blood
 - (c) Citrated preserved blood
 - (d) Placental blood
 - (e) Cadaver blood
11. Red cell suspension.
12. Hemoglobin — Ringer solution.
13. Bovine albumin solution.
14. Amino acids.

whole blood and plasma are lost. However, when the choice of agents is limited, plasma may be of great value in hemorrhage and whole blood in burns. Certain other factors such as preservability, transportability, cost, and antigenicity enter into the choice of an ideal blood substitute. In general, the surgeon has a wide selection of such agents as listed in Table 4. This synopsis includes, for completeness, blood substitutes that are still in the experimental stage as well as those with definite and proven clinical value. The subject of blood substitutes has been reviewed by Amberson (1937), Harkins (1941, 1942), Harkins and McClure (1941), Hartman, Schelling, Harkins, Brush and Warren (1942), and Mudd (1942).

(1) *Glucose solution.* This substance shares with the saline crystalloids the objection that, lacking any colloidal osmotic pressure, the solution readily escapes from the blood stream. Furthermore, the more advanced the shock and the more imperative the need for treatment, the less apt are crystalloid solutions to be of benefit. Harkins and McClure (1941) recently reviewed the evidence illustrating the evanescent effect of crystalloids in the presence of shock.

(2) *Saline Crystalloids.* These have the same advantages and disadvantages as does glucose solution.

(3) *Ascitic Fluid.* This substance was used experimentally by Davis and White (1938), Choisser and Ramsey (1938, 1939), and by Mulder, Davis and Streeter (1939). Clinically it has been used by Meerson and Cukanowa (1936) (in 60 cases), by Holubec (1940), and by Maes and Davis (1941) (in 22 cases). This fluid can be dried and reconstituted in a manner similar to plasma or serum. A serious drawback to its wide adoption is the limited amount of such fluid available.

(4) *Gelatin solution.* Following its introduction as a blood substitute in 1917 by Hogau, gelatin solution was not widely adopted. Recently, however, it has aroused renewed interest. At present, the use of gelatin as a blood substitute is largely in the experimental stage.

(5) *Isinglass solution.* Isinglass is a type of fish gelatin especially prepared from fish bladders. Its injection in cases of experimental shock has been reported by Taylor and Waters (1941) but its status is as yet uncertain. Recently, Taylor and Moorhouse (1942) reported on the clinical use of isinglass in patients.

(6) *Gum acacia.* The use of acacia was advocated during World War I by Bayliss (1916, 1917) and Hurwitz (1917). It has been widely used since. Recent reports of an unfavorable nature include those of Hanzlik and Karsner (1922); Andersch and Gibson (1934); Dick, Warweg, and Andersch (1935); Keith, Power, and Wakefield (1935); Christie, Phatak, and Olney (1935); Studdiford (1937); Hall (1938); Kendrick, Keeton, and Foley (1938); Yuile and Knutti (1939); Jackson and Frayser (1939) and others. A perusal of these reports indicates that the chief objection to gum acacia is its tendency to form more or less permanent deposits in the liver.

(7) *Pectin and other macromolecular blood substitutes.* The experimental and clinical use of pectin has been reported by Hartman and his associates (1941, 1942). Polyvinyl alcohol, methyl cellulose, gum arabic and gelatin were discussed by Hueper (1942).

(8) *Plasma.* Buttle, Kekwick, and Schweitzer (1940), in speaking of a 50 per cent hemorrhage, stated: "In hemorrhage of this degree replacement of red cells plays no vital part in treatment. . . replacement with plasma gives as satisfactory a result as replacement with whole blood." Taylor and Waters (1941) similarly stated: "It has been amply proved that the prime requirement in hemorrhage is to fill the vessels and so maintain the blood pressure. Compared with the reduction in the volume of the blood the loss of red cells is of very secondary importance as an immediate threat to life." Realization of the value of plasma is not new as evidenced by the following letter appearing in the March 9, 1918, number of the British Medical Journal:

TRANSFUSION OF PLASMA

Sir, — I have been reading with interest recent articles in the Journal on blood transfusion in casualty clearing stations. Apparently one of the chief troubles is the question whether or not the recipient's plasma will haemolyze the corpuscles of the donor.

"Surely this difficulty might be avoided by not transfusing the corpuscles at all, but only citrated plasma, which would be easy to keep and easy to give. There is abundant clinical and experimental evidence that it is not the corpuscles that are wanted, but the ideal fluid for keeping the blood pressure at its proper level, and the apparent advantage of blood is, no

doubt, due to its permanent value in this respect and to its food value. A man apparently dying from haemorrhage is not dying from lack of haemoglobin, else severe cases of anaemia would die long before they do, but from draining away of fluid, resulting in devitalization and low blood pressure.

"May I at least recommend a trial of this method, controlled, let us say, by an equal number of whole blood transfusions and an equal number of gum acacia (not less than 6 per cent) cases? — I am, etc.,
"Sevenoaks, March 3

Gordon P. Ward,
Captain R. A. M. C. (S. R.)."

Plasma is especially applicable in the treatment of burns. For civilian use ordinary blood bank plasma (i.e., the plasma decanted from the cells in blood which has stood for seven to ten days and would otherwise be discarded) is especially useful. Dried plasma, whether reconstituted to its original normal concentration or to a concentrated form, has the additional advantages of ready preservability and transportability. The two chief methods of manufacture of dried plasma in use at present are evacuation from the frozen state (lyophile and similar processes) and pervaporation (method of Hartman, 1940). Calcificated plasma as used by Clegg and Dible (1940) has little practical value. On the other hand, bovine plasma as used by Cohn (1940) and Wangensteen and his associates (1940, 1941) looks quite promising. The dosage of plasma is also of importance and large amounts may be necessary. The calculation of plasma dosage is especially simple in cases of thermal injury where the extent of hemoconcentration is roughly proportional to the plasma deficiency. The rule of Harkins (1941) is to give 100 cc. of plasma for every point the hematocrit exceeds the normal of 45.

(9) *Serum.* Serum has the same range of usefulness as plasma and is used to a large extent in place of the latter in Great Britain. Serum is said to have the advantage over plasma of lack of tendency towards development of fibrinous particles and the disadvantage of more frequent vasopressor reactions.

(10) Whole blood. — The reviews of Vary (1940), Harkins (1941) and Mudd (1942) should be consulted. The types of blood and blood transfusion can be classified as follows:

(a) *Direct transfusion.* The advantages of such a method over use of citrated blood are largely theoretical, especially in time of war.

(b) *Citrated fresh blood.* Introduction of the use of citrated blood by Lewisohn (1915) was an important advance in transfusion therapy. At present such blood is used most widely as

(c) *Citrated preserved blood.* In this form it is especially valuable in wartime.

(d) *Placental blood.* The disadvantages of small amounts and frequent contamination render this type of blood impractical.

(e) *Cadaver blood.* This method was introduced in Russia by Youdine (1936) and is widely used in that country.

The amount of blood that should be given is of prime importance. As stated above, it is no more logical to always give a shocked patient a pint of blood than to always give a diabetic patient ten units of insulin. Clinical judgment and an estimation of the amount of blood and other fluid which has been lost are of especial aid in estimating the amount of blood to be given. Usually the mistake is made in shock of transfusing "too little and too late."

(11) *Red cell suspension.* As used by Rossius (1925), Buttle and associates (1940), and Mollison (1941) this blood substitute has its usefulness essentially restricted to cases of anemia.

(12) *Hemoglobin-Ringer solution.* While this solution has been used extensively in experimental work (Amberson, 1937), and Amberson, Jacobs, Hisey, and Monke, 1942), the only clinical report of its adoption is that of O'Shaughnessy, Mansell, and Slome (1939). The chief disadvantage is that the hemoglobin is apt to form deposits in the renal tribules.

(13) *Bovine albumin solution.* — The use of crystalline albumin dissolved in water as advocated by Cohn (1942) may prove of importance in the future.

(14) *Amino Acids.* — These may be prepared by either the acid or enzymatic digestion of casein. Casein has the advantage of containing all of the 11 essential amino acids. Elman and Weiner (1939); Farr, Emerson, and Futcher (1940), and Elman (1940), the latter in two papers, discussed this mode of therapy. Madden, Zeldis, Hengerer, Miller, and Whipple (1941) and later Madden (1941) studied the utilization of a casein digestate injected by vein in forming new plasma proteins. Many of these observations, however, are not pertinent to the question of shock as they involve the use of

small amounts of digestate in attempting to maintain a protein balance. At present, therefore, these substances would seem better fitted for intravenous feeding and promotion of blood restoration, than as a blood substitute. Large amounts of amino acids have been given in a short period of time without reaction.

CONCLUSIONS

Shock may be defined as *a progressive vasoconstrictive oligemic anoxia.*

Prompt treatment of the oligemia before anoxic damage has occurred is essential. Shock should be prevented or remedied before the irreversible stage has developed. Therapy includes symptomatic measures, adrenal cortical extract, oxygen, and, most important, blood and plasma substitutes.

These latter are best given intravenously in adequate doses which are chosen to fit the case under treatment. For the treatment of burn shock a recommended dosage for an average sized adult patient is 100 cc. of plasma for each point the hematocrit exceeds the normal of 45. In cases of traumatic shock treatment should depend on a clinical estimation of the amount of blood or other fluid lost coupled with an appraisal of the patient's condition.

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RECOGNITION AND TREATMENT OF SURGICAL SHOCK

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Clinical traumatic shock is defined as a circulatory deficiency, neither cardiac nor vasomotor in origin, and characterized by (1) decrease in blood volume; (2) reduced cardiac output, and (3) hemoconcentration.

For many years shock has attracted the attention of the medical profession, especially the surgeons. Its pathogenesis has not been clearly understood and has been the subject of much controversy among authorities in this field. Many theories have been propounded to explain its cause. Crile's pioneer work in the early part of this century deserves much credit for our present knowledge. While his theory of splanchnic congestion has not been entirely accepted, it has stimulated others to do research work in this field. Other theories which have been proposed and discarded are the acapniac theory of Yardell Henderson, the fat embolism theory of Porter, and the adrenal exhaustion theory. The theories receiving consideration at present are: (1) the nervous theory, which has not been substantiated; (2) the toxic theory supported by Cannon, Bayliss, Moon and others; (3) capillary paralysis and permeability causing local loss of fluid into the tissues, supported by Blalock, Phemister and others.

There are two types of shock: primary and secondary. Primary shock is a condition which develops immediately after injury; it has a nervous basis, and pain and psychic factors play a role through their effect upon the vascular system.

Secondary, surgical, wound or traumatic shock is that state of general collapse which follows two, three or four hours after severe tissue injury. It is this type of shock which is of

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particular interest to the surgeon. Surgical shock may be produced by many conditions, but extremely painful trauma, severe crushing injuries and hemorrhage are the most frequent causes.

It is well to point out here that hemorrhage may be either "red" or "white". Loss of whole blood either outside the body or within the body cavities is the hemorrhage with which we are familiar and is called "red" hemorrhage. "White" hemorrhage is seen in patients suffering from shock produced by severe burns; it is a leakage of plasma through the capillary bed into the soft tissue and in such conditions it is frequently said that "the patient bled to death into his own tissues." According to Moon,[1] this increased or abnormal permeability of the capillary bed is caused by any type of injury to the endothelial lining of the capillaries thereby causing increased permeability to plasma colloids. Leakage of plasma from the blood produces hemoconcentration, decreased blood volume, reduced cardiac output, and finally tissue anoxia which, if uncompensated, will give rise to symptoms of shock eventually leading to death, unless these processes are reversed by appropriate methods of treatment.

In surgical shock the following physiological pathology is noted:

1. Decrease in blood volume (oligemia).
2. Reduced cardiac output.
3. Diminished blood flow.
4. Hemoconcentration.
5. Capillary congestion.
6. Increased blood non-protein nitrogen.
7. Reduction of the carbon dioxide combining power of the blood (acidosis).
8. The red blood cell count of the capillary blood may show no changes but often is increased. If a severe burn has been suffered, the red blood cells and the hemoglobin are markedly increased; if a hemorrhage has occurred, these are decreased.
9. Vasoconstriction.
10. Decrease in venous pressure.
11. Low blood pressure.
12. Decreased muscular tone.
13. Decreased metabolism.
14. Acapnia.
15. Diminished urinary secretion.
16. Tissue anoxia.

A patient suffering from surgical shock lies perfectly still and pays no attention to what is going on around him. Although plunged into mental stupor, he is quite conscious and answers questions slowly, painfully but correctly. There is present a depression of four of the vital processes: (1) the temperature is subnormal; (2) the respirations are sighing and shallow; (3) the pulse is extremely feeble, running and irregular, and (4) the blood pressure is low, in severe cases going down to 60 mm. of mercury. The patient shows an ashen pallor and has cold, clammy, sweating skin. The finger tips and lobes of the ears are cyanotic, probably due to peripheral stasis of blood in the dilated paralyzed capillaries. The eyes are heavy, lusterless and deeply sunken in their sockets. The cheeks are hollow and the brow furrowed with anxiety.

There has been considerable debate on the relationship of shock to the effects of hemorrhage, and the failure to distinguish between the two has been the source of much confusion. Both conditions are produced by the loss of large quantities of fluid, either whole blood or blood plasma. Several of the clinical signs are identical in both conditions, such as lowered basal metabolism, increased respiratory rate, thirst, and declining blood pressure. Moon[1] says that certain accompanying features are opposite in character:

1. "In shock the capillary endothelium becomes permeable, the tissue fluid and flow of lymph are increased. Fluid balance is disturbed, ability to absorb fluid from the tissues is impaired. Vomiting and diarrhea are frequent and infusions of fluids or transfusions of blood often are ineffective in treatment. None of these features results from simple hemorrhage."

2. "In shock the blood becomes concentrated, the non-protein nitrogen, potassium, calcium and magnesium contents are markedly increased, the sodium, chlorides and carbonates are decreased, the coagulation time is lengthened and the sedimentation rate is retarded. None of these changes is produced by hemorrhage."

3. "During shock the urine is decreased in volume and contains albumin, erythrocytes, casts, bile and other abnormal substances. No characteristic urologic changes result from hemorrhages."

4. "The necropsy findings after death from shock include edema, serous effusions, capillovenous congestion, stasis and petechiae in the

viscera, atony of the gastro-intestinal tract, focal necrosis and acute degeneration of parenchymatous organs. None of these morphologic features results from the effects of hemorrhages."

Other features differentiating shock from the effects of hemorrhage are:

1. In hemorrhage there is a loss of whole blood and soon thereafter there is a decrease in the erythrocyte count and hemoglobin. The cell volume as determined by the hematocrit tube is decreased. The leukocyte count is increased. In traumatic shock there is mainly a loss of blood plasma into the injured part through the increased permeability of the capillary bed which gives an increase in the erythrocyte count and hemoglobin. The cell volume is normal or increased. In severe burns the cell volume is markedly increased.

2. In hemorrhage the sensorium is not as depressed as in traumatic shock; instead the patient may show a marked degree of restlessness and frequently an apprehensive expression is noted.

3. In hemorrhage there is an extreme pallor or whiteness to the skin, mucous membranes and lips, and not the ashen color as seen in shock.

4. In hemorrhage the respirations are apt to be deep and rapid (air hunger), unlike the shallow respirations as seen in traumatic shock. Thirst also is a manifestation of severe hemorrhage.

The above differentiation may appear superfluous in a discussion of such an important subject, but it is of great value in considering treatment. A patient suffering from shock due to burns or trauma where there is an increased erythrocyte count certainly does not need whole blood but needs plasma or serum. However, a patient suffering from shock due to the loss of blood needs whole blood transfusions rather than plasma or serum. However, plasma should be given until whole blood is available.

With the above in mind and realizing the importance of knowing whether shock was due to "red" or "white" hemorrhage, and further realizing that the type of fluid therapy should be different in the two types, we began some clinical investigations in this field. Cell volume determinations with the hematocrit tubes, specific gravity of plasma and serum, and plasma and serum protein determinations by means of the Kagan falling drop proteinometer have been determined in over 50 clinical cases which had been or were to be subjected to major operative procedures.

If the cell volume was found to be considerably under the normal of 46 as determined by Scudder[2] and as is found in cases of secondary anemia from hemorrhage, citrated whole blood transfusions were given. If, however, the cell volume was above the normal of 45, as occurs in severe burns, acute pancreatitis, ruptured peptic ulcer and traumatic shock, and when the plasma protein was below the normal of 7 per cent, plasma transfusions were advised. Futhermore, fluid balance can be more accurately controlled by the above determinations and used as a guide to fluid therapy.

The aims of treatment in surgical shock are to reverse or rectify the abnormal processes mentioned above. This includes replacement of fluid lost and prevention of further fluid loss. Harkins[3] has clearly outlined the empiric and specific treatment of shock. Modified it is as follows:

I. EMPIRIC TREATMENT
- a. Rest
- b. Warmth
- c. Elevation of the feet
- d. Tight bandaging of the extremities
- e. Administration of sedatives
- f. Stimulants
- g. Vasospastics

II. SPECIFIC TREATMENT
- A. Blood substitutes:
 1. Plasma } 1. Normal, concentrataed or di-
 2. Serum } luted. 2. Dried. 3. Calcified.
 3. Whole blood
 4. Crystalloids
 - a. Sodium chloride
 - b. Dextrose d. Hartmann's solution
 - c. Ringer's solution e. Locke's solution
 5. Water
 6. Acacia
 7. Red cells
 8. Hemoglobin (pure crystalline; Ringer's solution)
 9. Ascitic fluid; pleural fluid
 10. Albumin, human and bovine
 11. Whole bovine plasma and serum
 12. Gelatin (animal protein from fish bladder)
 13. Pectin from citrus fruits
 14. Amino acids
- B. Oxygen therapy
- C. Adrenal cortical extract

Empiric Treatment. — *Rest,* as in all pathologic conditions, is essential. Sedation in the form of narcotics or the barbiturates may be necessary. In shock due to head injuries the barbiturates are preferable to narcotics so as not to depress the vital centers too markedly. *Warmth* is necessary but should not be extreme. Blalock[4] in a recent publication demonstrates that a marked rise in the temperature of the tissues is accompanied by vasodilatation and an increase in capillary permeability. He states, "It would appear that one is warranted in concluding that extreme degrees of heat should not be used even locally in the treatment of shock, particularly if means are not immediately available for increasing the blood volume by the introduction of blood or a suitable substitute." Patients exposed to cold and dampness should be placed in a warm bed and covered with blankets only and should not be covered with hot water bottles. Blalock's experimental animals showed that the average survival period in the group in which cold was applied was twice that of the group in which an elevation of body temperatures was caused by the local application of heat. *Elevation of the feet* or lowering of the head allows more blood to reach the respiratory center. *Tight bandaging of the extremities* is an old time-honored remedy which probably decreases the vascular bed and increases the blood volume to the vital centers. This may also prevent "white" hemorrhage or plasma loss through the capillaries in the extremities. Koch and Allen[5] use pressure bandages in severe burn cases in the belief that this pressure will prevent further fluid loss into the tissues. *Stimulants* should not be used too intensively, especially in shock due to hemorrhage, since their administration might increase the hemorrhage. Warm coffee or whisky are permissible if the patient is conscious. *Vasopastics* are merely symptomatic therapeutic agents and if used too freely may actually be harmful. Freeman[6] and others have shown that epinephrine alone will cause shock.

Specific Treatment. — Of all the blood substitutes, *plasma transfusions* at the present time seem to be the one of choice. It has been stated by Strumia[7] that "there is no emergency condition except carbon monoxide poisoning in which plasma is not as useful as whole blood." *Serum transfusions,* according to Blalock[8], are not preferable to plasma. Plasma and serum have approximately the same amount of protein. These two substances may be prepared for transfusion in several ways, but they are dispensed usually as liquid or frozen in civilian practice and as dried or concentrated in military practice. They may be given anywhere without typing, even at the front line first aid station where they are most needed. *Citrated whole blood* is, in our opinion, advisable in shock due to "red" hemorrhage where there is profound anemia. In such a case blood cells and plasma are both lost; therefore, whole blood would replace both losses. Plasma or serum should be given, however, until the whole blood is available. *Water* is not a complete restorative of blood volume but prevents dehydration. *Crystalloids,* as shown by Beard and Blalock[9], may actually do more harm than good if not supplanted by blood, plasma or serum, since they diffuse out through the permeable capillary bed unless there is an adequate amount of plasma protein present in the blood stream. In hemorrhage, unless bleeding has been arrested and shock is mild, they may increase blood loss and wash proteins into the tissues as well. *Acacia* was used in World War I but has since been discarded. Ravitch and Blalock[10] have stated that it may actually be harmful by interfering with the regeneration of plasma proteins in the liver since it is stored in the liver for long periods. It has also been said to combat the treatment of shock by interfering with oxygen absorption by the red blood cells.

"*Hemoglobin* has been given to human beings intravenously in large doses without ill effect. Pure crystalline human hemoglobin can be prepared and maintained in stable solution or lyophilized if desired. Because of the efficiency of extracorpuscular hemoglobin in carrying oxygen, cats can be kept alive 24 to 36 hours on feline hemoglobin after all of their blood cells have been removed." (Quoted from Ravitch and Blalock.)

Ascitic and pleural fluids have been injected safely intravenously. Ascitic fluid is similar to plasma but contains roughly half as much pro-

teins and is, therefore, half as effective. It is not readily available and our one experience with its use resulted in a rather severe reaction.

Albumin may be prepared from human plasma and probably will become a blood substitute of which we will hear more in the future. Hypertonic solutions of albumin obtained from alcohol fractionations of human plasma have been employed in a small number of cases and seem extremely effective in the treatment of shock. Bovine albumin prepared by the same method solved the problem of quantity and cost, but thus far the bovine albumin has not been free from a small fraction of globulin, which apparently is the cause of sensitivity reactions in human beings. If the globulin fraction can be removed and if bovine albumin can be secured in sufficiently pure form, a very nearly ideal plasma substitute for military and civilian use will have been found.

The use of *whole bovine serum* and plasma in 120 patients has been reported by Kremen et al.[11] They conclude that the incidence of reactions was sufficient to contra-indicate any clinical use of this material at the present time.

Gelatin, an animal protein which is derived from fish bladders, has been injected into dogs in a suitable solution and found to be effective in the treatment of shock, and causes no reactions. Its use in human beings has not been reported so far as I know.

Common citrus fruit pectin, which is commercially supplied for the making of jellies, has been prepared by Hartmann[12] and his co-workers for use as a plasma substitute. Only 8 clinical instances of its use are reported and in at least one a chill occurred.

Amino acids injected intravenously have proven valuable by supplying the body with building stones for the formation of tissue and blood proteins when adequate protein cannot be taken by mouth.

Of the other specific treatments of shock, *oxygen therapy* is of prime importance. One of the reasons for the irreversibility of the shock syndrome is anoxic damage to the tissues. Early prevention and continued treatment with high oxygen percentages are essential. Schnedorf and Orr[13] have recently shown experimentally the value of oxygen inhalation as an adjunct in the treatment of shock due to hemorrhage. *Adrenal cortical extract* is still in the experimental stage and authorities differ as to its efficiency. Cole[14] and his associates have recently shown experimentally that this preparation is of definite value prophylactically.

Whole blood, plasma or serum can usually be given by intravenous needle, but in severe shock there is a conpensatory vasoconstriction so that many times the veins are difficult or impossible to enter. In such cases canalization of the veins may be necessary, but even this is sometimes not possible due to thrombosis from previous needling. When this occurs, *sternal transfusions* in patients over three years of age, as recently reported by Tocantins[15], may be used as a last resort. Our experience with sternal transfusions has been limited and not entirely satisfactory, probably due to our inexperience in its use.

SUMMARY AND CONCLUSIONS

1. A resumé has been given of the current treatment of shock, both empiric and specific.

2. The common empiric treatments have been discussed.

3. Plasma transfusions in liberal amounts rank first in treatment, followed by whole blood transfusions. Crystalloids will not supplant plasma or whole blood but are valuable adjuncts.

4. Oxygen inhalations and adrenal cortical extracts are valuable adjuncts both as a prophylaxis and as a treatment of shock.

5. The value of the hematocrit, specific gravity of plasma or serum, and plasma protein determinations has been discussed.

6. The use of sternal transfusions has been mentioned when other methods of intravenous therapy have failed.

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TREATMENT OF MENTAL DISORDERS BY ELECTRICALLY INDUCED CONVULSIONS: A Preliminary Report

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In this discussion of the subject, no effort will be made to go into the history of convulsive shock therapy or the extensive bibliography on the subject.

The Method of Therapy — The usual electric convulsive therapy apparatus was used, the patient being put in a dry pack just prior to treatment, with a rolled up pillow placed under the back at about the level of the lower thoracic vertebrae. Straps were tied across the shoulders and above the knees. The treatments were given twice a week. The total number of treatments given was dependent on the degree of mental improvement. Ten treatments was considered to be a course, if no improvement occurred with this amount of therapy, treatment was discontinued, but if the patient showed some improvement, then more treatment was given in the amount thought to be necessary. The lowest number of treatments given to a patient was five; the highest continuous number was eighteen; and the highest intermittent number was thirty. The lowest amount of electrical current necessary to produce a convulsion was 350 milli-amperes, the highest was 700 milli-amperes. The shortest time required was 0.2 seconds, the longest was 1.0 second. The voltage varied between 80 and 150 volts.

The Material Used — There were one hundred patients, 43 male and 57 female. The patients were not selected according to the nature or duration of the psychosis, except that organic psychosis were excluded. The types of cases treated were as follows:

Involution Melancholia	10
Manic Depressive, Depressive Type	14
Manic Depressive, Manic Type	16
Manic Depressive, Mixed Type	4
Dementia Precox, Simple Type	2
Dementia Precox, Catatonic Type	8
Dementia Precox, Hebephrenic Type	31
Dementia Precox, Paranoid Type	6
Psychoneurosis, Anxiety Type	3
Psychoneurosis, Hysteria Type	1
Psychoneurosis, Neurasthenic Type	2
Psychoneurosis, Psychasthenic Type	2
Psychoneurosis, Reaction Depression	1

The ages of the patients ranged from eighteen years to sixty seven years. Forty nine patients had previous admissions or had been given metrazol, insulin or both. The duration of the psychoses was variable and ranged as follows:

Under six months	10
Six months to one year	19
Over one year	71

Most of the patients were given a reasonable chance to make spontaneous improvement. Out of the fifty one first admissions, forty two were put on treatment two months after admission, the other nine were put on treatment before two months had elapsed, because it was considered to be for the best interests of the patients.

Physical Condition — Every patient was given a thorough physical examination, also an electrocardiograph of the heart and roentgenograms of the chest and the region of the cervical and thoracic vertebrae was done. Seventy nine patients were in good physical condition; fifteen had some form of myocardial involvement or enlargement of the heart; five had suspicious

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chest findings; and one was in very poor physical condition, due to malnutrition.

Complications — The usual number of mandible dislocations occurred, however, these were easily reduced after the convulsions, with no bad after-effects. Two patients developed subconjunctival hemorrhage early during treatment. Examination of the eye grounds showed no evidence of hemorrhage in the retina.

Results — Results were based on whether the duration of the psychosis was one year or less, and these cases were designated as recent cases, if the duration was over one year, they were considered to be chronic cases. Degree of improvement was shown as follows:

1. Recovered, which meant that the patient had completely lost all psychotic manifestations, was able to go home and carry on the usual duties where they left off before their mental disorder manifested itself.
2. Improved, meaning that the patients have not fully recovered, but are able to adjust outside the institution with good supervision.
3. Institutionally improved, meaning that the patients are more cooperative, easier to handle, and will do a certain amount of work in the institution.
4. Unchanged, meaning no improvement in the patients' mental condition, or that treatment has made no change in the patient.

There were 29 recent cases, and 71 chronic cases. Recovery occurred in 12 recent and 6 chronic cases; improvement in 12 recent and 26 chronic cases; institutional improvement in 4 recent and 11 chronic cases; and no change in one recent and 28 chronic cases. The following table evaluates the results:

Recovered — 18 patients 18%
Improved — 38 patients 38%
Institutionally improved — 15 patients 15%
Unchanged — 29 patients 29%

The following table evaluates the results of the treatment after a lapse of 3 to 12 months following the end of the course of therapy:

Recovered — 17 patients 17%
(1 relapse)
Improved — 31 patients 31%
(7 relapses)
Institutionally improved — 20 patients 20%
Unchanged — 32 patients 32%

All the results my be avaluated from the following table:

	No. of Cases	Recovered	Improved	Instit. Improved	Unchanged
Involutionals					
Recent	7	4	3	0	0
Chronic	3	1	1	1	0
Depressed Manics					
Recent	8	2	6	0	0
Chronic	6	1	3	0	2
Manic Manics					
Recent	4	2	1	1	0
Chronic	12	3	7	1	1
Mixed Manics					
Recent	1	1	0	0	0
Chronic	3	0	1	1	1
Dem. Precox, Simple					
Recent	0	0	0	0	0
Chronic	2	0	1	0	1
Dem. Precox, Cat.					
Recent	5	3	1	1	0
Chronic	3	0	1	0	2
Dem. Precox, Heb.					
Recent	4	0	1	2	1
Chronic	27	0	7	6	14
Dem. Precox, Par.					
Recent	0	0	0	0	0
Chronic	6	0	0	0	6
Psychoneurotics					
Recent	0	0	0	0	0
Chronic	9	1	5	2	1

CONCLUSION

This form of therapy is of great value in the cases of involutional melancholia; almost as good in the manic depressive psychoses of the depressive type; fairly satisfactory in the manic type of the manic depressive psychoses. In regard to the manic depressive psychosis of the mixed type, the cases treated did not do very well, since two out of four cases that went home relapsed after a short time, and the other two cases made no improvement; however, since there was only a small number of cases, this is no criterion. The treatment may be helpful in the early schizophrenics, although the author has not seen any cases whose psychosis was less than six months old, and the cases of longer than six months duration were not helped to any great extent, although some of them did go home on parole. It was the author's observation that schizophrenics of the catatonic type showed very good mental improvement if the duration of the psychosis was less than six months, in all other cases, there is no change. Psychoneurotics are not benefited by this treatment, except if it is made part of a course of psychotherapy. Those patients who had been given other forms of shock therapy and showed temporary improvement as a result, also showed

only temporary improvement with electro-shock therapy. The question as to whether the treatment is worth while, can only be answered in one way. Although only a small number of cases are improved appreciably, yet this is better than that none should be helped.

DISCUSSION

1. Finkelman, M.D (Chicago): Mr. Chairman, Honored Guests, Ladies and Gentlemen: I had great pleasure in listening to this interesting contribution to the literature of electric shock treatment.

One should be very cautious in the use of this method since we do not yet know all the side actions.

In our laboratory, under the guidance of Dr. L. J. Pollock, Dr. Arieff of Northwestern University is studying the effects of electric convulsions on rabbits. In a series of twenty rabbits, one to ten convulsive seizures were induced by the electric current and the rabbits were killed two weeks after the last convulsion. Seven rabbits died before the required number of convulsions. One animal sustained a quadriplegia due to multiple hemorrhages in the spinal cord and brain.

In the series there were four cortical hemorrhages, one pineal and three subarachnoid. There were nine instances of ischemic ganglion cell changes in the cerebellum, eight in the mid-brain, six in the cortex and three in the brain stem. One animal showed normal findings.

I do not imply that the same deleterious effects will be observed in human material or that you can carry over these findings to patients, but the findings are significant and we should weigh carefully each case before inducing convulsive seizures for therapeutic purposes.

ORCHIDECTOMY IN PROSTATIC CANCER

A Case Report

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The pessimism of urologists toward prostatic cancer is due to several factors: (1) the tendency of cancer here to be present without producing early symptoms (2) the frequency of widely disseminated bony metastases. The work of Gutman and Sproul suggested some of the possible extraneous factors which may influence the spread of this cancer to certain parts of the skeleton. They found that not only was the prostate very rich in an enzyme called acid phosphatase, but also that advanced cases of prostatic cancer demonstrated an appreciable rise in the acid phosphatase content of the metastases. Moreover, the blood sera of patients with carcinoma of the prostate showed a marked elevation of serum phosphatase *only* if skeletal metastases were present.

In April 1941, Huggins reported his interesting results following castration of 21 patients with prostatic malignancy. In this group during a period of 20 months there were four fatalities and two patients failed to exhibit any improvement. The remainder (71%) showed definite signs of regression of the malignant process.

The rationale of bilateral orchidectomy in this condition depends on the fact that prostatic tissue is responsive to the influence of testicular extract. There is a stimulation or inhibition of adult prostatic epithelial growth when the androgens are administered or withheld. This change in prostatic epithelium is associated with corresponding variations in the serum acid phosphatase concentration. Whether this is an actual cause and effect phenomenon is not known at the present time. Recent reports seem to justify the tentative conclusion that decreasing the androgen content of the body may impede the cellular metabolism of prostatic tissue by lowering the acid phosphatase level of the blood serum, and of the prostatic tissue itself. Since the phosphatase content of the bony metastases is very high, a marked reduction in the enzyme here may favor regression of these skeletal foci as demonstrated by periodic x-ray examination. Prior to the introduction of orchidectomy a minority of surgeons performed radical perineal prostatectomy on patients who had definite evidence of a malignant process limited to the gland and capsule but without skeletal metastases. Here, prostatectomy was done either (1) to primarially relieve symptoms of bladder-neck obstruction and secondarily to attempt removal of the cancerous tissue or (2) to effect a cure by excision of the malignant gland, prostatic capsule and bladder-neck even though no urinary tract obstruction existed. Clinical results in the latter group have not been good.

We have been impressed by the occurrence of prostatic carcinoma accompanied by diffuse skeletal metastases but without bladder-neck obstruction and the absence of residual urine. These patients had small prostates of stony hardness and x-ray showed characteristic dense,

compact metastases to the lumbar spine, ribs, upper femora and lung fields. After careful analysis and evaluation of the therapeutic measures available, I feel convinced for the present that in this latter group bilateral orchidectomy and the administration of stilbestrol, to further lower androgen concentration, offers results comparable to the best. The following case history is presented as an example of the results obtained.

F. S. age 66 years was first seen on 6/2/42 his chief complaint being pain in the back of both legs and a progressive loss of weight. Accompanying these symptoms was a feeling of being tired at all times, loss of appetite, morning headache and transient pains in the chest and upper arms. The patient dated the onset of his illness to Jan. 1942. He had not been able to fulfill his duties as a machine operator since April 15th because of marked fatigue. There was no history or nocturia or diurnal frequency. His usual weight was 174 lbs. Past history was irrelevant. He was admitted to St. Elizabeth's Hospital on June 12th. Physical examination revealed no significant findings except some tenderness on pressure over each humerus. The gross body-weight was 133 lbs. The prostate was small but very hard. Its firmness at once suggested the possibility of carcinoma. Laboratory examination revealed: urine: Sp. Gr. 1.022, alkaline; no albumin, sugar or bile; few phosphate crystals. Essentially normal blood count. X-ray examination of the thorax, pelvis and femora showed "generalized metastatic carcinoma to the bones probably primary in the prostate."

On June 19th under low spinal anesthesia, both testicles were removed. Postoperatively the patient was given 0:5mg. stilbestrol B.I.D. a soft diet and 100mg. thiamine HCI intravenously daily. Convalescence was smooth, and he was discharged on June 23d feeling, as he stated, "Better than I have in ten years." All the preoperative complaints had disappeared and on Nov. 15th his weight had reached 168 lbs. and he had been working for three months at his usual occupation. Following some discomfort in both breasts, the stilbestrol was reduced to 0.1mg. three times weekly with relief of this symptom.

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PROGNOSTIC FACTORS IN CASES OF PSYCHOSES FOLLOWING PREGNANCY

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The psychoses in women which begin shortly following delivery of a child are designated as post partum psychoses. Since the puerperium is normally known to last about six weeks one may assume that only those cases of mental illness with an onset within this time should be considered as puerperal psychoses.

In a recent survey Smalldon[1] reviewed the records of 220 post partum cases and verified the now generally accepted viewpoint that in the majority of instances a diagnosis of either manic-depressive psychosis or schizophrenia is suitable. The remaining cases are usually diagnosed psychoneurosis or psychosis with mental deficiency. True toxic-confusional states occur but are rather rare in state hospital patients.

Since we are not dealing with a disease entity in post partum psychosis, it is evident that the prognosis will depend chiefly on the specific diagnosis in the individual case. However, a consideration of prognostic factors is of importance for several reasons. The family physician is frequently asked by the anxious family about the probable outcome of the case, and his opinion will very often be the deciding factor whether the patient should enter a private hospital, a state institution, or whether she should be cared for in the home. The form of treatment and the problem of the care of the newborn will also depend very much on the prognosis the physcian and the psychiatrist will give in the individual cases. The question, therefore, arises as to whether or not one is able to make a correct diagnosis and prognosis at an early stage of the disease, and whether the prognostic factors are different in the cases following childbirth as compared with other cases of schizophrenic and manic-depressive psychosis. Davidson[2] thought that in every patient at the onset of a post partum psychosis a somatic element is present which renders the diagnosis quite difficult.

Studies Made At Elgin State Hospital, Chas. F. Read, Managing Officer.

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Fishback[3] reviewed in a statistical study, 88 post partum cases treated at the Elgin State Hospital, and compared her findings with those of other authors. She found a marked discrepancy between the various statistics in regard to incidence, diagnosis, and symptoms, and also in regard to the recovery rate which varied in various institutions between forty and eighty per cent. Fishback found that 58% recovered at the Elgin State Hospital and 11% were markedly improved. However, the recovery rate for those patients diagnosed manic-depressive psychosis was 91% in an average of 9.7 months, while the recovery rate for schizophrenics was only 17.1% in an average of 14 months. In general the Elgin figures compared rather favorably with those in the literature and this may be due to the fact that the Elgin group had a comparatively larger group of manic-depressive psychosis.

Manic-Depressive Psychosis — All nine patients diagnosed manic-depressive psychosis, manic phase, made a social recovery and were able to assume their duties at home. This finding could obviously be expected.

The onset of manic-depressive psychosis, manic type, was usually quite sudden. We did not find any prodromal symptoms in any of our cases although they were present in other forms of psychosis. This does not agree with Strecker and Ebaugh (Smalldon[1]) who thought that prodromal symptoms could be observed during the course of pregnancy in a high percentage of cases.

The diagnosis seemed to be relatively easy even in the very early stages. A clear sensorium, meddlesomeness of the patient, and the presence of grandiose ideas during the first few days of hyperactivity seem to indicate the outbreak of a manic psychosis even though the mood was not necessarily elevated at first. The grandiose ideas were often expressed by the belief that there had been a multiple birth ranging up to sextuplets. The onset of the psychosis is usually between the third and twelfth day. The pre-psychotic personality was either clearly extroverted or ambiverted with a tendency towards outgoing interests. The total duration was six months in one case and under four months in all other cases. This is a shorter duration than is usually expected in manic-depressive psychosis not connected with parturition. In spite of the fact that none of these cases received any shock therapy they all could leave the hospital and, according to our information, adjusted quite well.

The prognosis, then, is favorable in patients who, without prodromal symptoms, develop a sudden psychosis within the first few days after delivery, characterized by grandiose ideas and a clear sensorium. These patients belong in the manic-depressive group, manic phase. However, it is not uncommon for patients to have more than one attack either connected with a new pregnancy or without any obvious precipitating factor.

The prognosis in depressive cases is, according to our material, also favorable. Eight of our nine cases had a complete remission after an average duration of illness lasting from six months to one year. This is considerably longer than the duration of manic attacks. One also has to consider the fact that in several of these cases convulsive shock therapy was instituted with apparently good results. Without shock therapy the duration of a depressive attack would probably be considerably longer. It seems, therefore, that one has to expect a longer duration of psychosis in a depressive phase, and one should be careful not to predict an early recovery. However, almost invariably the patient will have a remission. The psychosis does not begin as suddenly as the manic attack, and usually starts with evidence of feelings of inadequacy and a fear of being unable to care for the child. A few days after the patient reaches home the psychosis becomes more marked and reaches its depth within a few weeks after delivery. In agreement with Strecker anl Ebaugh's (Smalldon[1]) findings prodromal symptoms could already be noted in the last stages of pregnancy. Six of our patients expressed a fear of impending disaster before delivery. The confusional factor was quite marked and hallucinatory experiences of a depressive nature especially occurred. The clinical picture is usually not as clearly defined as in the manic type, and the picture is more easily confused with schizophrenic symptoms. However, all of our patients diagnosed depression recovered except one patient who had

considerable schizophrenic coloring, especially displayed in a marked apathy.

In general it may be stated that patients who show some depressive features after delivery and in whom the psychosis deepens following return home may have to expect a long period of illness. However, the final outlook will be favorable for a complete remission. Shock therapy usually shortens the duration of illness. The patient may be expected to have other attacks of depression. One of our patients had three attacks, each connected with childbirth. Especially grave seems to be the future development of an involutional psychosis. Two of our cases developed severe long lasting involutional depressions which have not responded to shock therapy. In both cases the first attack had occurred after delivery of a child twenty years before the present illness.

Schizophrenia — In cases who develop a schizophrenic-like picture following childbirth the outlook must be generally considered as grave. These patients usually develop a psychosis after their return home. The mental disturbance starts with some irritability, feelings of antagonism towards the hospital personnel, and vague paranoid trends. The psychosis is not easily recognized in the beginning and it very often is several weeks before a psychiatrist is consulted. This insidious onset of psychotic symptoms with the development of ever increasing behavior disturbances is characteristic of the group. Acute features are frequently absent at first.

The pre-psychotic personality is not as commonly found to be of introvert type as is seen in our other schizophrenic patients, but we find irregularities in the home situation very frequent. Although the prognosis for recovery is grave, as is stated above, two of our patients had been kept in the home environment for a period of ten years before institutionalization was necessary. It seems that a good home environment with an understanding family or a good psychotherapeutic approach does prevent fast deterioration in such cases.

The catatonic group shows an exception to what has been said about schizophrenia. An acute fear reaction a few days after delivery with characteristic bewilderment, loss of contact with reality, and denial of the child may be found in this group. Like the other schizophrenic types the psychosis deepens in the following weeks and leads to the characteristic postural manifestations of a catatonic nature. The hospitalization is invariably necessary and should be early because of the self-destructive tendencies evidenced by refusal of food and general rapid physical debilitation.

The outcome of these cases is quite good and within a relatively short time the patient has a remission. Shock therapy is given in all our catatonic cases. In our experience convulsive shock seems to be more advantages than insulin. Even if recovery is not obtained there is usually an improvement in physical condition. Some patients recover spontaneously several weeks or months after the cessation of all shock therapy.

In the non-catatonic group of schizophrenics all forms of shock therapy were used and all of them have shown rather disappointing results. It has to be stated, however, that several of these patients went home in a state of fair remission and were brought back to the hospital in relapse, possibly because of known unfavorable home environment. It must be considered that these cases if placed in a suitable environment might have made at least a social adjustment. That the home environment plays an important part in the adjustment of these patients is indicated in the cases described above who were able to reside at home for more than ten years. In the institution these patients deteriorate quite rapidly unless individual attention and constant psychotherapeutic efforts are made to keep them at their present level. The physician treating such patients should be aware of the fact that the prognosis in these cases is extremely bad.

Comment — It is generally assumed that in post partum psychosis the prognosis is quite good. This, however, is only true of the manic-depressive group and the catatonic form of dementia praecox. According to our experience cases of schizophrenia developing in the puerperal period have a tendency to deteriorate quite rapidly. They become untidy and idle and form one of the most markedly regressed groups in our schizophrenic population.

We notice the rarity of the paranoid states in this group which may be explained by the

fact that these patients are relatively young, and it is known that paranoid features usually develop later in life. However, it is thought that other factors might possibly be significant which are not as yet known. We found that a good prognosis for further home adjustment could be expected in cases of psychoneurosis and mental deficiency and that in both types of illness the most pronounced feature of the break-down was a feeling of inadequacy in the care of the child. These cases responded well to psychotherapy.

It is usually assumed (Rennie[5]) that a good prognosis can be expected in schizophrenic psychoses if there is an acute onset in the female sex with adequate precipitating factor, adequate attempt at heterosexual adjustment, and short duration. This does not hold true in cases developing during the puerperium since the factors are present in all cases. Many other factors tending towards a good prognosis have been proposed (Rennie, Langfeldt, Wittman, Piers) with special regard to remission after shock therapy. Although the post partum psychoses have a number of these good prognostic factors in common the generally bad outcome in our schizophrenic cases seems to indicate that personality factors and the environment play the most important part in the prognosis. It has been stated that toxic factors tend to indicate a good prognosis, but some of our deteriorated schizophrenic patients had a high temperature in the early stages of their illness.

CONCLUSIONS

1. The prognosis in the cases of post partum psychosis depends chiefly on the psychotic manifestations in the individual cases. Patients in whom manic-depressive features are outstanding, recover almost invariably while patients in whom schizophrenic symptoms are predominant generally do not recover.

2. Patients developing manic-depressive psychosis, manic phase, following pregnancy recovered in a shorter period of time than cases in whom pregnancy was not the contributing factor.

3. Toxic factors do not change the prognosis and high temperature can be observed in the beginning of schizophrenic as well as of manic-depressive psychosis.

4. Environmental factors seem to play an essential part in the production of a psychosis, and changes in the environment or good ability of the individual to adjust herself are necessary for a good prognosis.

5. Shock therapy does not seem to alter essentially the recovery rate of post partum schizophrenic psychosis but may shorten periods of depression. Perhaps shock therapy plus environmental changes may decrease the time of institutionalization in schizophrenics.

6. Psychotherapy is of some aid especially if applied ante-partum, and should be directed towards encouragement of the mother that she will be able to care for her child in spite of all adversities, and that life will be more satisfactory to her because of the child in the home. If the accomplishment of this aim seems unlikely other arrangements for the care of the child should be made early.

7. With adequate psychotherapy in schizophrenic cases it seems to be possible to keep the patient much longer in the home environment, and it is possible to delay the deteriorative effect of the schizophrenic process even when recovery cannot be expected.

I wish to thank Dr. Erich Liebert for his review of the cases discussed and for suggestions from his own experiences.

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DISCUSSION

George E. Rooney, M. D. (Joliet): I have been fortunate enough to see about twelve cases in the last three years in the age group from 19 to 42. Symptoms usually followed, as Dr. Chapman has said, the manic depressive psychosis and also the schizophrenic. In three cases we had a woman who had been sick before with the same disturbance.

In the treatment of these cases we usually use shock therapy. These patients took on an average of from two to eight treatments. The results of treatment: Four cases were completely cured within three weeks; five cases were completely cured within three months; three cases remained in the hospital for a period of about four weeks with eight treatments of shock therapy and did not improve but later at home were completely well. Another one was improved at six months and one showed definite paranoid schizophrenia at the end of two years and was in the hospital.

We usually saw these cases about the third day after postpartum. We were very fortunate to catch these cases early and I believe that the earlier therapy is started in postpartum psychosis, the better the results.

Roland P. Mackay, M. D. (Chicago): It seems to me that the physician or neurologist who is in active civil practice sees a somewhat different type of postpartum psychosis from that seen in the State Hospitals. It is probably inevitable that a patient who carries around with her the germ of psychosis but who is able to adjust herself under normal living conditions may develop a psychosis of a recognized type under the stress of child-bearing.

It is my impression, however, that most of the patients which we see in a large general hospital with a postpartum psychosis have psychogenic factors as the basis for their psychoses.

I have been struck by the fact that most of these women express some hostility toward the child or toward the child's father. Of course the birth of a child in the home so to speak "nails down" the marriage, and it seems to me any woman who has hostility toward her husband and the birth of whose child tends to make her marriage more difficult to break, may become psychotic. Such mental illnesses are characterized very often by an interference with the sensorium, a denial of the child, denial even of the marriage, and a delusional structure related to being married. Perhaps such patient's don't all get to the State Hospitals, but they certainly are very, very numerous.

I am sure that if we could study these patients before the birth of the child, we would find in them the germs of abnormal mental states before the child is born. Consequently, I think that psychotherapy rather than shock therapy or any other drastic form of treatment is to be preferred in such cases.

If we can enter into the home situation in some way to alleviate some of the stresses there, these patients will get along very well.

Certainly not all the postpartum psychoses are manic depressive, paranoid or catonic. Most of them are schizoid, in my opinion, or perhaps hysteroid, and most of them eventually get well for that reason.

LONGER LIFE JACKETS SUGGESTED TO PROTECT AGAINST DEPTH BOMBS

Journal Editorial Outlines Recent Studies Of Blast Injuries And Points To The Need Of Further Investigations

One of the new hazards of war is the blasts from depth bombs which explode when a sinking warship reaches the depth at which the bombs had been set to explode when used to attack submarines. Sailors escaping from the sinking ship frequently are either seriously injured or killed if they are in the water within several hundred feet of the exploding bomb. Longer life jackets that would cover the abdomen as well as the chest have been suggested as a possible protection against such blasts, *The Journal of the American Medical Association* for April 10 points out in an editorial outlining experimental studies of such blast injuries.

"The basic experiments of Hooker and of Zuckerman," *The Journal* says, "demonstrated that the effects on the body of explosions both in air and in water are primarily due to the externally applied pressure wave. (E. R. P.) Williams observed that pressures set up by an explosion at some depth in water create a new factor. When the pressure wave reaches the surface, transmission of the pulse to air does not occur but there is a reflection as a wave of tension. . . . The human body, according to Williams, has roughly the same density as water. When the pressure wave impinges on the body reflection does not follow but the pulse will be transmitted through the tissues without displacement just as if the body were so much water. However, when the transmitted pulse encounters an air cavity in the body as, for example, the lungs, the static wave of pressure will change into a wave of kinetic energy in the layers of tissues lining that cavity and a disruptive effect will occur. Hence the lungs and other gas filled cavities in the body are particularly susceptible to damage from the pressure wave even though the body itself may not be deeply immersed. . . ."

The Journal points out that G. R. Cameron, R. H. D. Short and C. P. G. Wakeley found in their investigations that kapok and foam rubber are best capable of preventing or minimizing the injurious effects of the compression wave in experimental animals.

In cases observed by M. T. Friedell and A. M. Ecklund at the hospital at Pearl Harbor it was felt that possibly the life jacket had prevented such severe injuries to the lungs as to cause death and that the abdomen, which was unprotected, bore the brunt of the explosion. This seemed to be borne out by experiments of the two men and leads to the suggestion that extension of the life jacket to cover the abdomen would be beneficial. They also could find no evidence in their experiments that, as has been reported by other investigators recently, water was forced into the intestines through the lower opening, with rupture of the bowel. The injuries found in the bowel seemed to them to be a direct effect of the explosive force transmitted through the elastic walls of the abdomen and chest. Neither did Friedell and Ecklund note hemorrhages into the brain in their experimental animals which died primarily as a result of a blast. They felt that a blast wave sufficiently forceful to produce injuries within the head would certainly cause fatal injuries within the chest or abdomen.

"The numerous reports now appearing in medical periodicals," *The Journal* concludes, "and the many unanswered questions that are being raised relative to the effects of blast on various systems in the human body indicate the need for further investigation, both clinical and experimental. The approach through special committees or subcommittees of the Office of Scientific Research and Development and the Division of Medical Sciences of the National Research Council, which has been so successful in other problems, might well be applied in the case of blast."

REPORT ON STUDIES ON PASSIVE IMMUNITY AND ACTIVE IMMUNITY TO TETANUS

Information on several important questions concerning the treatment and prevention of tetanus, particularly as regards the duration of passive immunity and its effects on active immunity, is reported in *The Journal of the American Medical Association* for April 10 by Jean V. Cooke, M.D., St. Louis, and F. G. Jones, Indianapolis. Their report is based on observations on the immunization of children with clinical tetanus and of normal children. Passive immunity is that which depends on defensive factors not originating in the individual protected, but which is acquired by injection of immune substances produced elsewhere. Active immunity is that which is obtained by the active participation of a person's own body in producing immune substances — antibodies or antitoxins.

From their study of active and passive tetanus immunity on 39 children on whom more than four hundred tetanus antitoxin measurements were done, the two authors found that although passive immunization with the usual prophylactic dose of 1,500 units or less produces an immunity of only approximately three weeks, larger doses cause a much more prolonged immunity.

In 4 children with clinical tetanus it was observed that antitoxic immunity did not follow recovery from the disease.

The two authors report that "A passive immunity (to tetanus) can be converted into an active immunity by toxoid injections (a toxoid is a toxin, the poisonous qualities of which have been destroyed but which is still capable of inciting the production within the body of protective substances against that specific toxin). It was observed, however, that this transition can be produced as readily and as rapidly when the initial active toxoid injection is delayed several weeks as when it is started simultaneously with the antitoxin injection (which creates passive immunity). After passive immunization with 10,000 units of antitoxin and with toxoid injections at two week intervals an active immunity developed in from eight to twelve weeks regardless of whether the first toxoid was given simultaneously with the antitoxin or whether it was delayed two, four or six weeks. . . ."

The authors say that their observations tend to refute the value of simultaneous injection of antitoxin and toxoids in the production of active tetanus immunity and show that a delay of active immunization from two to four weeks following the antitoxin injection is indicated.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Philip H. Kreuscher, Frank P. Hammond, H. A. Vonachen, R. I. Barickman.

OBJECTIVES OF THE MEDICAL PROFESSION IN INDUSTRIAL HEALTH AND HYGIENE*

Frederick W. Slobe, M.D., F.A.C.S.

The prevention of ailments, incapacities, and accidents and, having occurred, their cure, have always been the aims of the medical profession. These common objectives, applying in every field of medical endeavor, are likewise the goal of the industrial health and hygiene program in Illinois. There is no essential difference between such a program in war or in peace. The war has simply acted as a catalyst in bringing together all the various forces and agencies concerned in the vital conservation of man-power to the end that the highest possible efficiency of industrial production be attained for the war effort. Let us hope that sufficient momentum will accrue such that the lessons learned, the improvements developed, and the advantages gained in the promulgation of the workers' welfare during the war, will not only be retained but even augmented in the peace to follow. For sound industrial health and hygiene measures not only enhance the welfare of the worker; they are "good business" for industry; and they are good for the community.

THE PREVENTION PROGRAM

The elimination or reduction to a minimum of ailments, incapacities, and accidents by attacking their source is fundamental. This includes:

(1) Periodic plant inspections relative to the identification, location, and control of unhealthful occupational exposures (including the study of toxic agents, ventilation, humidity, illumination, temperature, vibration, noise, dusts, vapors and fumes, etc.)

(2) Sanitary supervision of wash-room facilities, eating places, and of plant house-keeping.

(3) Safety control including devices to prevent or minimize accidents and harmful exposures.

Industrial hygiene laboratory studies are essential where possible hazards exist. Examples of such are air analyses for toxic chemical content, dust counts, and tests for the efficiency of exhaust systems.

THE HEALTH PROGRAM

To conserve the employees' health we must have accurate knowledge concerning employees, hence the importance of:

(1) Periodic examinations.

The first examination is the pre-placement examination before employment in order that the employee be assigned to a job commensurate with his physical and mental status; that his welfare and the welfare of others be not endangered; that advice be given concerning correctable defects and measures taken to avoid aggravation of pre-existing ailments.

Subsequent periodic examinations have the same general purpose plus the opportunity of observing the employee's reaction to his industrial environment. This is particularly important where toxic exposures are known or suspected to exist; in such instances periodic examinations of the blood may be necessary.

*One of the purposes of this article is to serve as a basis or outline for presentation by local physicians at industrial health conferences fostered by county medical societies.

Re-examination before the employee returns to work following a non-occupational illness or accident is likewise important.

Even before the war, the rejection rate following such a plan of examinations was extremely low and it has now dropped to perhaps less than 1%.

The physically handicapped are now at work; obviously a careful pre-placement examination is most essential here. For not only must the worker be fitted for the job but many times the job must be fitted to the worker. Men with amputated arms and legs, deaf mutes, the blind, and many with deformed or shrunken limbs are working at jobs suited to their limitations. And at such jobs, the production records of many of these fail to indicate any significant handicap.

Dental hygiene and oral prophylaxis are matters meriting serious consideration especially among male workers who are usually quite careless in this regard. Advice is given concerning dental care and a subsequent check-up conducted to see if the advice has been followed.

(2) Nutrition has come to the fore and deservedly so. Posters, leaflets, and bulletins are serviceable and in larger plants quite elaborate nutrition campaigns are conducted. Emphasis is stressed on the ingredients of an adequate diet with sufficient information as to the protective foods. Where indicated, supplementary administration of vitamins may be necessary.

(3) Fatigue manifestations if recognized in time and corrective measures taken may eliminate much loss of time and inefficiency. This is closely related to problems of hours of work, rest-periods, high-speed operations, bonus plans, night shifts, the optimum period for rotating shifts and the like. Noise may be an important factor in fatigue. Local fatigue in isolated parts of the body, causing disturbed function and various local ailments, often occurs from chronic over-use of a part.

(4) Absenteeism is arousing tremendous interest because it is a decided menace to production. Non-occupational ailments and injuries cause ten times as much lost time as occupational diseases and injuries, hence the need for preventing or diminishing the frequency of such ailments and their prompt alleviation if incurred. Absenteeism may be divided into three groups. The first group consists of actual, justifiable incapacity due to a disabling condition. Here our duties involve prevention, scientific alleviation, and controlled observation to insure that such absences are not prolonged beyond the safe requirements. The second group comprises those who deliberately remain away from work without adequate cause — the saboteurs of production. Strenuous week-ends, high wages coupled with restrictions on spending, the desire for recreation, and over-optimism as to an early victory are among the causative factors. Carefully planned measures are needed to curb such wilful absences. The third group is the mixed group in that, although no complete incapacity exists, extenuating circumstances may be present, to allow a reasonable justification. Such conditions include fatigue, long hours, lack of a vacation, poor transportation, inclement weather, inadequate housing facilities, personal and business affairs, etc. Coupled with an indifferent morale, these factors often create absenteeism.

All plants might well adopt the slogan of the Cessna Aircraft Company, offered by a seventeen year old girl employee, "You Can't Spell Victory With an Absent T." Moral persuasion is more effective than disciplinary measures.

(5) Morale must be elevated and maintained at a high level. It has to do with the attitude of the worker and involves psychological, psychiatric, physical, economic, and sociological relationships. It has much to do with fatigue and absenteeism. Its roots are nourished not only by the local environment but by national and international policies as well.

(6) Communicable diseases require special measures of detection and control. Tuberculosis, venereal diseases, and various epidemic and endemic diseases all demand individual methods of handling.

(7) Women in industry, due to the great influx of female workers, present new problems in a health program. Their productivity is affected by their high absenteeism rate, menstrual disorders, pregnancy and emotional upsets.

(8) The Executives. These key-men are hard to replace; many of them work 50 hours a week in the plant and worry 30 additional hours outside the plant. They must be kept fit for much depends on their fitness. In our concern for the health of the worker, the executive has been neglected and left to his own devices, which often need considerable guidance.

(9) Mode of living. Out of a week of 168 hours, the worker spends all except 40 to 60 hours outside the plant. These outside activities have an important bearing on the employee's efficiency. Habits, home environment, and domestic affairs often cause more fatigue and emotional disturbances than the work itself.

THE REMEDIAL PROGRAM

Prompt, efficient care of occupational injuries and ailments minimizes incapacity and disability. Very essential is the adoption of the uniform rule that all employees so afflicted must report to the medical department immediately. A minor accident may develop into a major incident. The full-time physician, the part-time physician, the full-time or part-time nurse, and trained lay personnel are utilized depending on the size of the plant. Requisite skill and training of all concerned in the treatment of the injured must be assured. An injury may disable a man from performing his regular work but often does not incapacitate him from engaging in other important duties. Cooperation between the surgeon, the patient, and management can greatly curtail lost time due to injuries.

Occupational diseases, including the frequent occupational dermatoses, likewise require early recognition and skillful handling. Prompt transfer of such patients to a different department may prevent much lost time. Plant and personal hygiene must be effectively combined here to obtain optimum results.

Various minor ailments, which impair efficiency but do not incapacitate, require the availability of simple methods of treatment during working hours. Examples are "colds," menstrual cramps, headaches, and minor gastro-intestinal upsets. If the ailment is persistent or incapacitating, the patients are referred to their family physicians. This type of supervision usually results in many more employees going to their personal physicians than would otherwise occur, as they are usually loathe to consult a physician for what they consider to be a trivial ailment.

Adequate records covering each contact with the medical department are very necessary. A constant awareness can thus be developed concerning accidents, ailments, absenteeism, and periodic examinations.

The above summarizes some of the important objectives concerned in plant prevention and safety control, health control, and of treatment. The scope of such work is vast, dealing with professional groups, employees, management, labor, and city, county, state, and national agencies. In order to develop a unity of effort, a correlation of these various interested groups is urgently needed.

THE CORRELATION PROGRAM

To achieve or even approach our objectives there must be a coordination of all activities concerned with the conservation of man-power.

The Medical Profession.

(1) Stimulation of physicians' interest in the industrial health campaign and a realization that each physician, directly or indirectly, is associated with it, are indicated. More physicians, both full-time and part-time are needed in the industrial field.

(2) Facilities for education in industrial health and hygiene, and the care of injuries. "Refresher courses," graduate and post-graduate training, and affiliations with established industrial medical organizations must be rendered available for those newly entering the field or for those desiring supplementary training.

(3) A Certification Board of Physicians and Surgeons in Industry would appear to be a logical development. Steps are being taken with this end in view.

(4) Committee organization.

Under the guidance of the Council of Industrial Health of the American Medical Association, each county medical society should have a committee on industrial health, such committee activities being coordinated through a similar committee of the state medical society. Local activities are best handled in this manner, also problems of industrial health and procurement.

(5) State industrial hygiene bureaus and local health departments are of inestimable help in sponsoring and aiding this plan.

(6) National agencies.

The United States Public Health Service through its department of industrial hygiene is a source of valuable information and help. The same applies to the Subcommittee of Industrial Health of the Federal Security Agency.

(7) Medical organizations.

The Council of Industrial Health of the American Medical Association, the American Association of Industrial Physicians and Surgeons, the American College of Surgeons, and many national, sectional, and local medical societies representing special types of practice are devoting much attention to this field.

(8) Nurses.

The industrial nurse, under medical supervision, fulfills important functions, involving both the actual care of patients, prevention programs, health education, and acting in a liaison capacity between the physician and the plant. Close cooperation should exist between the medical profession and local, state, and national Nurses' Associations, including the State Councils of the National Nursing Council for War Service.

(9) Relationship between physicians directly affiliated with industry and those having no direct affiliation.

Close cooperation will avoid much duplication of effort and misunderstanding. A free interchange of information is most helpful, such as a note or a phone call when an employee is referred to his personal physician. Patients are often wrong in their conclusion as to the origin of an ailment or supposed injury and the personal physician may unwittingly acquiesce; a phone call to the physician who knows the worker's environment should help clarify the situation. Avoidance, by all physicians, of expressing definite opinions until the facts are ascertained will have a wholesome effect. Plant physicians should give the greatest consideration to requests of personal physicians that an employee be transferred to a different shift or a different department; and, likewise, physicians making such requests should be sure of their grounds before making them.

Doctors in general practice can do much to preserve the employees' morale, reduce absenteeism, and to promulgate all the general principles outlined above.

Management.

A responsive plant management is essential to the success of this program. While many large corporations are reasonably cognizant of its value, much missionary work remains to be done in the small plants. Helpful procedures to be followed include:

(1) Development of the realization among plant executives that an industrial health program, in addition to its humanitarian aspects, is really "good business." Factual evidence and statistics furnish ample proof of this and should be available for presentation.

(2) Stimulation of the interest of plant officials in all the aspects of industrial health and hygiene.

(3) Enlistment of the support of trade journals and manufacturers associations' magazines so that requisite publicity be obtained for educational purposes.

(4) Invitation of plant officials to attend industrial health conferences and participation by them on the programs.

(5) Cooperation between management and employee-labor organizations.

A knowledge and understanding of the principles involved in the "better health" effort should eradicate certain deterrents which have existed in the past.

(6) Recognition of the value of plant medical services by adequate remuneration of the physician and by granting him a sufficiently high executive status.

The Employee; Employee Organizations; Organized labor.

The employee is the direct recipient of the benefits accrued through the adoption of this plan. Health education, safety measures, and even the optimal effects of remedial treatment will be largely nullified unless they reach a receptive mind. The employees and their organizations have a deep obligation to help this program for by doing so they help them-

selves as well as the war effort. Helpful procedures, then, should include:

(1) Educational measures relative to the obligations of the employees and their representatives in view of the fact that this campaign is for their benefit.

(2) Stimulation of morale by talks, articles, and pamphlets.

(3) Invitation to industrial health conferences by employees' representatives and union leaders with representation by them on selected programs.

(4) Development in employee organizations and unions of specialists who are conversant with the principles of industrial health and hygiene.

(5) Joint management and labor cooperation — to create a mutual understanding of the principles involved.

The above is a brief summary of the objectives of the medical profession in its endeavor to improve and maintain the health and fitness of the industrial worker. Essentials in the prevention and safety program, the health program, and the remedial program are outlined as well as data pertaining to the correlation of the activities of the medical profession, plant management, and labor. It is hoped that this material will be useful for presentation to any of the professional or lay groups interested and concerned in the conservation of the welfare of the workers in industry.

CHLORACNE — "CABLE RASH"

Considerable interest is being devoted to chloracne. The February, 1943 Bulletin of the Division of Industrial Hygiene, National Institute of Health, Bethesda, Maryland has reported a recent dermatitis outbreak in the Seattle shipyards, and lists some valuable measures of prevention.

"The chloracne among electricians in Seattle shipyards which caused considerable alarm and a threatened strike, was due to the type of cable used and the fact that the electricians handled it continuously, reported Dr. Louis Schwartz, who made the investigation. Only one shipyard had cases of chloracne. The 3 remaining yards used another type of cable and electricians spent only part of their time stripping.

"The alarm and the threatened strike in the Seattle shipyards followed newspaper reports of a dermatitis outbreak and 3 deaths of acute yellow atrophy of the liver among workers at the Anaconda Copper Company, Hastings-on-the-Hudson, New York. The Seattle electricians were handling wire made by the Anaconda Copper Company and some of them had developed a dermatitis which they attributed to handling the wire. They were finally persuaded to remain at work until someone from the U. S. Public Health Service could arrive and make an investigation. Dr. Louis Schwartz immediately flew to Seattle where he examined workers in the 4 shipyards who had the so-called 'cable rash' to determine if it was a chloracne.

"The cable which caused the acne was found to be the Anaconda cable in which asbestos impregnated with chlorinated compounds is loosely packed and flakes off during the stripping operations. Precautions recommended by Dr. Schwartz for handling this special Anaconda cable with the loose insulation are:

1. Workers engaged in stripping cable containing either chlorinated naphthalene, chlorinated diphenyl, or chlorinated diphenyl oxide should be supplied with hood respirators. It is preferable to have these hood respirators made from a transparent synthetic resin such as pliofilm or vinylite, or perhaps a fire-proof cellophane. The eye piece should be a large flat plate of lucite rather than the conventional double lenses. The respirator should be closely fitted to the nose and contain such filters as will efficiently remove dust and wax.
2. Workers should be supplied with clean overalls daily, the overalls to be laundered at the plant.
3. Workers should wear long underclothes and change them daily.
4. Workers should be required to take a shower before going home, and they should be furnished with toilet soap for this purpose.

"If the hood respirator cannot be obtained or used, protective ointments of the type that coat the skin with a dry film and prevent the halowax from touching the skin should be applied to the face, neck, and ears. Two such ointments are the tetryl protective cream de-

veloped by the U. S. Public Health Service, obtainable from the West Disinfectant Company, and a preparation called 'Sav Skin No. 2', obtainable from the Doak Company, Cleveland, Ohio. These ointments should be applied before going to work, washed off before going to lunch, reapplied after lunch, and washed off before going home.

"At the end of the investigation, a meeting of the dermatologists in Seattle was called and 4 cases of chloracne were presented before them to acquaint them with the diagnosis of chloracne and the recommended treatment methods. For a detailed discussion of chlorinated naphthalenes and diphenyls hazard, see the January issue of this news letter."

TREATMENT OF EPIDEMIC KERATOCONJUNCTIVITIS

In the Journal of the American Medical Association, March 27th, 1943, Drs. A. E. Braley, and Murray Sanders of New York presented a preliminary report of ten cases treated by the intravenous administration of convalescent serum, in doses varying from 15 to 50 cc. Nine of these were said to have shown striking clinical improvement within a short time. This is of interest because this disease has been considered to be self-limited, only the usual symptomatic measures of treatment being utilized. Dr. Sanders apparently has used the blood serum from persons having recovered from the disease in experiments on mice, stating that the serum contains a substance which neutralizes the virus of these experimental rodents. Obviously, this is purely a preliminary report and controlled studies will be needed, using standard, accurately titered convalescent serums.

VENEREAL DISEASE CONTROL IN INDUSTRY

The December, 1942 Bulletin of the Division of Industrial Hygiene, National Institute of Health, Bethesda, Maryland contains the following interesting information concerning venereal disease control in industry:

"Recommendations to State and local health departments for a venereal disease control program in industry appeared in the November issue of Industrial Medicine and the November 14 issue of the Journal of the American Medical Association. The program was suggested by a special committee composed of Drs. O. L. Anderson and W. C. Dreessen of the U. S. Public Health Service, by Drs. Walter Clark, New York, E. R. Hayhurst, Columbus, Ohio, E. C. Holmblad and Carl M. Peterson, Chicago.

"The program recommended involves cooperation between employers, employees, the medical profession, and State and local health departments. Responsibility for administration would rest on industrial hygiene and venereal disease divisions of the State health departments.

"The control plan should be inaugurated with an educational program directed both to employer and employee. Besides furnishing a general understanding of the venereal diseases, their causes, prevention, spread, and cure, it should convince employees that adequate treatment protects health and the ability to earn a living. Employers should understand that all cases of venereal disease are not infectious, and that under proper treatment infected persons may be employed safely and profitably. Educational media should consist of posters, folders, pamphlets, speakers, and motion pictures.

"The program advocates a complete physical examination of workers including sero diagnostic test for syphilis, and, when indicated, a smear or culture for gonorrhea. Pre-placement examinations should be mandatory for all workers. It is of the 'utmost importance' that results be confidential between workers and medical staff.

"The crux of the program lies in the adoption of a sound employment policy.

"The committee comments: 'There is no reason for denying employment to an applicant or for discharging an employee because an examination has revealed evidence of syphilis or gonorrhea, provided: that the employee agree to take such treatment as may be indicated; that if the stage of the disease is infectious, employment should be delayed or interrupted until such time as a non-infectious state is established through treatment, and open lesions are healed; that, when syphilis exists in a latent stage, employment should not be delayed or interrupted; that when disabling manifestations exist which would render such individuals industrial hazards to themselves, other employees, or the public, employment may be deferred or denied; that provision be made, whenever possible, for oc-

cupational readjustments of employees who develop disabling manifestations that do not incapacitate them from performing some type of useful work; that workers with syphilis in any of its stages, and regardless of past or present treatment status, should be excluded from areas of toxic exposure, and that those having cardiovascular or neurosyphilis should not be exposed to such physiologic stresses as extremes of temperatures, strenuous physical exertion, or abnormal atmospheric pressures; that workers with gonorrhea should be allowed to work only under special medical observation during the administration of sulfonamide drugs'."

PLANS ALREADY HAVE BEEN MADE TO CARE FOR BLINDED MEMBERS OF ARMED FORCES

Plans already have been made for the handling of members of the armed forces who are blinded in this war, *The Journal of the American Medical Association* points out in its April 10 issue. *The Journal* says:

"Among the casualties of war few merit more immediate consideration than that given to those who become sightless as a result of their participation in the national defense. In World War I, according to available figures, less than 250 Americans were blinded. Thus far the number of British soldiers who have become sightless, including the men from Great Britain and the colonies, is somewhat less than a few hundred. Planning bodies, therefore estimate that the number of Americans in the armed forces who become totally blind will not exceed a few hundred. For the past six months representatives of the Surgeon Generals of the Army, the Navy, the Public Health Service, the administrator of the Veterans Administration, the Federal Board of Hospitalization and the ophthalmologic committee of the Division of Medical Sciences of the National Research Council have been engaged in a study of the problem. An elaborate program has been developed to rehabilitate socially and economically those who become sightless. Sufficient funds have been provided by the Congress to meet every possible need. The plans contemplate utilization of existing agencies which deal with the blind. However, public fund raising campaigns are unnecessary since the over-all need is hardly sufficient to demand special expansion for this purpose in the services of unofficial agencies. In accordance with the executive order of the President, the social rehabilitation of the blind becomes a function of the Veterans Administration and is to be handled by the Division of Educational Rehabilitation and not the medical division. Through the cooperative effort now in process of development the rehabilitation will begin just as soon as the diagnosis is made and will continue from the time of reception of the invalid by the armed forces until the man can be discharged from the Veterans Administration physically, mentally and socially rehabilitated."

WOUND HEALING

One aspect of wound healing is often overlooked by the surgeon, the fate of the cells killed during the incision, during control of hemorrhage, or possibly killed by tight suturing. All these dead cells must be removed by phagocytosis alone if the wound is closed, or by phagocytosis and sloughing if the wound is left open. The more dead cells left in a wound, the more likely will infection result. Granulation tissue is a protection against infection only so long as the surface in intact. Systemic factors such as anemia, local factors such as infection, movement of the wound edges, epithelization of the wound surfaces may all retard healing. Delayed healing should suggest presence of a foreign body, or specific infection such as tuberculosis or actinomycosis, or malignant tissue in the walls or base of the wound.—*Tri-State Medical Journal*

Thanks to books the dead appear to me as though they still lived—everything decays and falls into dust by the force of time; Saturn is never weary of devouring his children and the glory of the world would be buried in oblivion had not God as a remedy conferred on mortal man the benefit of books. * * * Books are the masters that instruct us without rods or ferrules, without reprimands or anger, without the solemnity of the gown of the expense of lessons. Go to them, you will not find them asleep; if you err, no scoldings on their part; if you are ignorant, no mocking laughter.—Quoted from Richard de Bury (Philobiblion, 1325) in a *Surgical Pilgrim's Progress* 1845-1925, Reminiscences of Lewis Stephen Pilcher.

Nothing is so firmly believed as what we least know.—***Montaigne.***

Clinicopathologic Conferences

J. J. Moore, M.D., Department Editor.

PRESENTATION OF CASES

By
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PERIARTERITIS NODOSA

Report of 3 cases

Case 1.

Dr. I. A. Rabens: A 52 year old white woman, a storekeeper, was admitted on July 17, 1938. She was well until three months previous to admission. Since then she was aware of progressive loss of strength, of occasional night sweats and of loss of weight — a total of 14 pounds. This was attributed to anorexia. Recently she had attacks of palpitation of short duration and some dyspnea. These gradually became more frequent, though she attended her store daily for twelve and fourteen hours. She consulted a physician who suspected thyrotoxicosis, but two basal metabolism tests within a month were normal. A few days prior to admission, while sitting in an automobile, with the door open and speaking to a friend, she suddenly fainted and fell out of the car onto the sidewalk. She promptly picked herself up, not knowing what had struck her and resumed her conversation. When first seen by me, she was aware of peculiar short spells of palpitation and believed she had had a few transient fainting spells while in bed. Inquiry revealed no history of headaches, dizziness, blurring of vision and disturbance of hearing. Patient had no hemoptysis, no chest pain, and no afternoon rise in temperature. She had never had precordial pain or nocturnal paroxysmal dyspnea. Anorexia was fairly marked but no nausea, vomiting, epigastric distress or diarrhea. Urination was normal, there was no nocturia. She complained of being nervous and restless, but attributed it to a fright during a robbery in her store.

The past history was not significant. There was no history of rheumatism, or of hypertension. Menopause set in six years ago. She had one living child, a daughter, twenty-three years of age.

The patient was well-developed and nourished, rather pale, apprehensive looking. The vessels of the neck showed pulsation. The right lobe of the thyroid was full. There was no glossitis. The pupils were equal and reacted to light and accommodation. Superficial lymph nodes were not enlarged. The lungs were resonant throughout; there were no rales anywhere. The cardiac impulse was heaving in character; there were no thrills, and the heart was moderately enlarged. The tones varied: at times forceful and loud and then suddenly distant. The rhythm was peculiarly irregular. There were frequent extra-systoles, with silent periods, frequent accelerations and slowing of the rate and irregular deficit at the radial artery. It was difficult to decide between an auricular fibrillation or constantly varying heart block. Then suddenly there was perfectly regular rate and rhythm. There was a systolic murmur over the whole precordium. Blood pressure was 128/80. A_2 and P_2 were within normal limits.

The abdomen showed moderate tenderness on deep pressure. The liver, kidney and spleen were not palpable. The extremities showed no edema, no tender areas, no subcutaneous nodes. There were no petechiae anywhere. The reflexes were brisk and normal.

A tentative diagnosis was made of myocardial degenerative changes, especially involving the conduction system, with probable Stokes-Adams syndrome to account for the fainting spells.

Course: On day of admission, while resting in bed, patient suddenly had a fainting spell. The face became extremely pale, the head dropped over to the right, pupils became dilated, then face became dusky. She was completely unconscious, pulseless, and there was complete cardiac standstill. Respirations were irregular and stertorous. This lasted about ten or twelve seconds. Then suddenly she came to, complained of being very weak. The heart rate was from 120 to 130 and markedly irregular. From then on these attacks began to recur irregularly every twenty to sixty minutes. When the attack lasted from fifteen to twenty seconds, there were convulsive movements of the neck muscles and at times also of all the extremities. At times instead of a tachycardia, a bradycardia of about from forty to fifty would ensue. An electrocardiographic machine was brought into the room and graphs were taken during the attacks. They showed periods of complete ventricular standstill of varying duration with pulsus bigeminus of auricles followed by 2:1 block. Right ventricle and left ventricle showed extrasystoles and again periods of ventricular standstill.

Management: Adrenalin (from five to ten minims) was given every two hours; 5 per cent glucose intravenously. The attacks continued in frequency and duration, so adrenalin (5 minims) had to be given every hour and, at times, more often. After about two or three days, the attacks diminished in frequency and adrenalin was reduced and ephedrine sulphate grs. 3/8 and barium chloride grs. 1/2, three times a day, were added to counteract whatever vagus influence there may have been. By the end of seven days, these attacks completely stopped and the rhythm became perfectly regular. The rate was 110-130. The EKG showed prolonged P-R intervals with early arborization block. She was now quite comfortable and cheerful, took food and slept well. She was, however, running a mild fever since admission, varying from 99.5 to 100.5 F., which was hard to explain.

Laboratory findings: Stools were negative. Blood chemistry showed sugar 97 mg. p. 100 cc., urea nitrogen 11.8 mg. Serologic tests for syphilis were negative on two occasions. Sputum was repeatedly negative. Agglutination tests for typhoid, paratyphoid and for undulant fever were negative. Blood cultures were sterile on repeated examinations. Urine was essentially negative; there were occasional white blood cells but no red blood cells. Blood counts: RBC. — 4,130,000, 4,000,000, and 3,650,000, Hb. — 68 per cent and 70 per cent, WBC. — 13,300, 12,900, and 11,200; differential counts were normal. An x-ray of the lungs showed interlobar thickening, no foci of inflammation. Vigilant search for petechiae or other evidences of emboli was fruitless.

Subsequent Course: Patient continued to feel well and free of attacks. There was tachycardia but no irregularity. The mild fever continued. At the end of two weeks patient suddenly developed pain in both hands which showed no blanching, cyanosis, redness or swelling. This was relieved by hot compresses. The pain kept recurring and lasted longer each time. There was no change in motor or sensory functions. There were no nodes at finger tips or anywhere else. Previous medication was stopped and only small amounts of codeine and aspirin were given, and hot applications which always helped. The temperature became a little more septic, 99 to 102 F. The pains continued for about eight or ten days and gradually subsided.

On the 42nd day of the patient's stay in bed, the pulse rate suddenly dropped from 120 to 48 and became markedly irregular, with frequent asystoles, distant tones and frequent gallop rhythm. The patient became listless and very weak. She was promptly put back on the old treatment, but there was not the quick response as before. EKG showed complete A-U dissociation with slow ventricular rate, V extra-systoles, and very low voltage. The next day, patient died suddenly.

The final antemortem diagnosis considered was either 1) a subacute bacterial endocarditis with severe myocardial involvment, or 2) coronary occlusion with severe myomalacia especially involving the interventricular septum.

Essential postmortem findings. Dr. I. Davidsohn: Necropsy was performed 3½ hours after death. The body was well developed and poorly nourished. The skin and visible mucous membranes were pale and showed no petechiae or any

other abnormalities, except a healed old thyroidectomy scar. There was no edema. Old dense adhesions to the chest wall and to the diaphragm were found in the right pleural cavity. The heart weighed 380 Gm. The outer surface showed occasional nodules, measuring from less than a millimeter to almost 2 mm. and located in the vicinity of the blood vessels. The larger nodules were hemorrhagic. A thickening of the intima of the interventricular septum of the left ventricle extended from the base of the aortic leaflets for about 2 cm. Its surface was smooth. On sectioned surface through the septum there was present a grayish white tissue with brown streaks of irregular distribution which extended downward into the myocardium of the left ventricle and into the septum for about 1 cm. Upward it extended into the interauricular septum almost to the lower edge of the orifice of the vena cava superior. The mitral ostium and leaflets showed no abnormalities. The cavity of the left ventricle was dilated. The myocardium was soft, and light brown. The wall measured up to 15 mm. in thickness. The aortic leaflets were diffusely thickened, hardened, rigid and measured up to 2 mm. in thickness. The changes resulted in a stenosis of the ostium and an insufficiency of the valve. The pulmonary ostium and valve and the tricuspid ostium and valve showed no abnormalities. The right ventricle was dilated. The wall measured up to 4 mm. and showed an increased amount of fat. Coronary arteries: The lumens were patent and showed a few yellowish plaques of intima. Thyroid was absent due to an old thyroidectomy. Kidneys weighed 380 Gm. Consistency was firm. The capsule stripped with slight difficulty leaving a dark red-brown surface. Many miliary nodules about 1 mm. in size were present. The findings in the other organs were not significant.

Cause of Death: Acute heart failure due to infarction of intra-auricular and interventricular septums.

Anatomic Diagnosis: Heart: Periarteritis nodosa. Recent infarct of the interauricular and interventricular septums. Healing infarcts and old scars. Fibroplastic deformity of the aortic valve with resulting insufficiency of the valve and stenosis of the ostium. Dilatation of the left ventricle and of the right auricle and ventricle. Parenchymatous degeneration. Periarteritis nodosa of kidneys. Chronic bronchitis. Old pleural adhesions (right). Chronic perisplenitis. Acute and chronic congestion of lungs, spleen, liver and kidneys.

Bacteriologic findings. Heart blood culture: After forty-eight hours occasional gram positive cocci in long chains and many gram negative bacilli were present. The former were identified as non-hemolytic streptococci, the latter as Pseudomonas aeruginosa (B. pyocyaneus).

Microscopic findings. Heart: There was a diffuse increase of connective tissue particularly around the blood vessels from where it extended

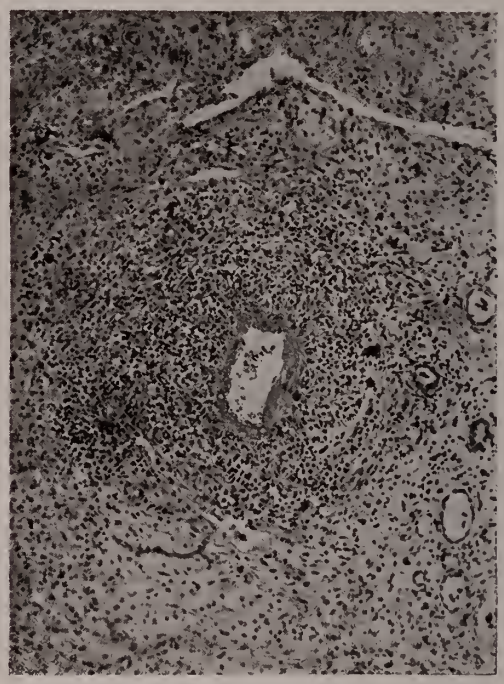


Figure 1

Case 1. Lesion in kidney typical for periarteritis nodosa. Note necrosis of wall of artery and the periarterial nodule.

between the muscle fibers. Accumulations of lymphocytes, plasma cells and occasional large mononuclear and multi-nucleated cells were present. In addition, there was a diffuse infiltration with plasma cells and with occasional eosinophilic leucocytes. Many of the muscle fibers showed loss of striation and other degenerative changes of various degrees. In addition to above findings, sections from the upper portion of the inter-ventricular septum and from the interauricular septum showed areas of caseation necrosis surrounded by granulation tissue, by a leucocytic exudate and by moderate numbers of multi-

nucleated giant cells. Some of the giant cells resembled the Langerhans type of giant cell. Deposits of lime salts were present. The small arteries and arterioles showed thickening of the walls with a proliferation of granulation tissue around them. The lumens were markedly narrowed. Sections from the thickened aortic leaflets showed similar changes. Kidneys: Sections from the nodules showed an almost complete destruction of the normal architecture, and replacement by a diffuse infiltration with plasma cells, lymphocytes and occasional multi-nucleated giant cells with the nuclei at the periphery and a homogenous cytoplasm in the center. Arteries of different calibers showed necrosis of the walls. They were surrounded by a thick wall of granulation tissue with many fibroblasts, some of them arranged radially and with many leucocytes, eosinophilic as well as neutrophilic (Figure 1). Some were filled with thrombi. There were present foci of necrosis surrounded by granulation tissue and by leucocytes. In some places there was new formed connective tissue present while in others the cellular exudate predominated. In some glomeruli hyalinized thrombi were seen within the tufts filling out the entire glomerulus or only parts of it. Occasionally fibrosed and hyalinized glomeruli were present. Lungs: In a few areas necrosis of the arteriolar walls with thrombi in the lumen was found. However, the lesions were less frequent than in the kidneys. Spleen: Many small arteries and arterioles showed similar changes in their walls and similar surrounding granulation tissue as was found in the kidneys (Figure 2). Small focal areas of necrosis were present. The capsule showed deposits of granulation tissue with many fibroblasts, lymphocytes, plasma cells, and leucocytes surrounding extensive areas of necrosis.

Microscopic diagnosis: Acute periarteritis nodosa of heart, kidneys, spleen and mediastinal lymphnodes. Anemic infarction of myocardium. Subacute and chronic myocarditis and myofibrosis.

Summary: Recurrent paroxysms of Stokes-Adams syndrome with fatal heart failure were explained by a diffuse infarct of the septum of the heart due to periarteritis nodosa of a coronary artery.

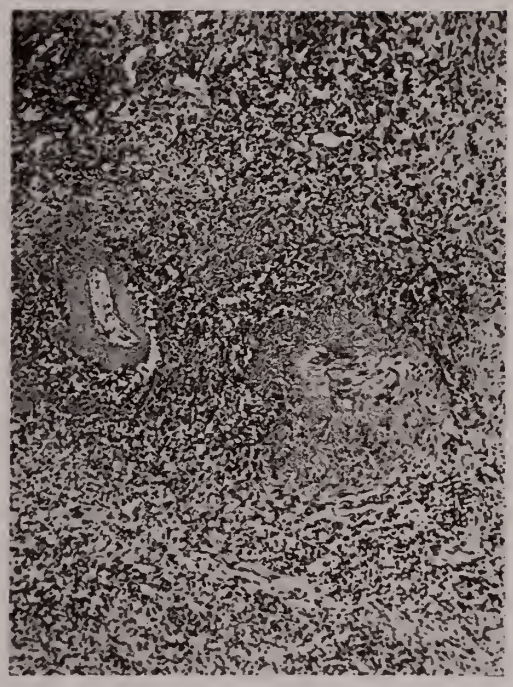


Figure 2

Case 1. Necrosis of wall of artery with periarterial infiltrate. To the right a nodule with necrosis in center. This is probably a tangenial section close to an artery.

CASE 2.

Dr. Harry Rolnick: A 42 year old white man entered the hospital on April 23, 1941 with complaints of pain in legs, shoulders and arms of three months duration. The pains in the calves were cramplike and radiated up to the thigh. They were so severe as to make him bedridden. There was a weight loss of eight pounds in the last two weeks associated with weakness. Patient has been coughing during the last few days. The past history was not significant. The blood pressure was 120/70, temperature 99.2 F, pulse 100, respiration 30.

Both sternocleidomastoid muscles were tender. Moist rales were present in both pulmonary bases posteriorly. Heart was essentially normal except for extrasystoles. There was marked tenderness over both calves and shoulder muscles.

Laboratory Findings: Serologic tests for syphilis, agglutination tests for enteric infections and repeated blood cultures were negative. Sedimentation rate of erythrocytes was 87 mm. at the end of one hour. For other findings see table 1. EKG. was essentially normal except for auricular extrasystoles. On April 24, x-ray

examination of chest showed a round, ball shaped cloudiness in the left pulmonary apex and subapical area. On April 30, the process was found further advanced.

Course: Muscle pains were relieved following administration of aspirin. Pharynx and palate became acutely inflamed and temperature became septic rising up to 103 F. On April 28 the white blood count rose to 24,750. Patient began vomiting. Catheterized urines showed pus, albumin and many red blood cells. On May 4th patient was unable to void. Twenty-two hours after last voiding patient was catheterized and no urine was obtained. On May 5th patient still did not void. White blood count was now 25,200. Cystoscopy on May 6th revealed no elimination from right kidney and some elimination from left. Catheters were inserted. During this time blood pressure rose gradually to 200/90. On May 9th, bilateral nephrostomy and decapsulation were done. Both kidneys appeared enlarged. There was slight drainage of whitish material from left side, four hours after surgery. Patient was semicomatose. Blood pressure was 115/70, pulse 92, temperature 98 F. There was bilateral edema of extremities. On May 10th, small quantities of urine and blood were draining. On May 13th ecchymoses of left conjunctiva, muscular twitchings and edema of both lower extremities were noted. No urine passed through nephrostomy tubes. Patient was in a uremic state and expired on May 14th.

The rapid development of retention of non-protein nitrogenous substances in the blood, of albuminuria and hematuria and the changes in the blood picture are recorded in Table 1.

Essential postmortem findings. Dr. I. Davidsohn: Necropsy was performed ten and one-half hours after death. The face was edematous. Two incisions (due to nephrostomies) were present in lumbar region. Ascites (400 cc.), bilateral hydrothorax (300 cc. on right side and 150 cc. on left), and hydropericardium (400 cc.) were present. A small recent anemic infarct was found at the margin of the left ventricle of the heart near the base. A grey consolidation, measuring 5 cm. in diameter, was found in the apex and subapical region of the left lung (Figure 3). Both lungs were enlarged, the left weighed 790, the right 740 Gm.

TABLE 1

Blood Chemistry

Date	Sugar	Urea Nitrogen	Non-Protein Nitrogen	Uric Acid	Creatinine
4/24	82*	12*			
4/29	80	14			
5/5	Catheterization				
5/8		65	90*	6*	3.6*
5/9	Bilateral nephrostomy				
5/10		78	120	9	5
5/14	118	82	124	7	4

*mg. per 100 cc. of whole blood.

Urine

Date	Albumen	Red Blood Cells	Blood
4/24	±	very occ.	—
4/28	+	1 - 3*	+
4/29	++	few	++
5/2	+++	many	+++
5/10	+++	35-50*	+++
5/11	++++	very many	+++

*per high power field

Blood Counts

Date	Red blood Cells (millions)	White blood Cells (thousands)	Band Forms %	Neutrophilic leucocytes %	Lymphocytes %	Eosinophiles %	Monocytes %
4/24	4.5	16.5	2	87	2	6	3
4/28	4.1	24.7	1	81	2	12	4
5/5	3.4	25.0	4	81	1	11	3



Figure 3

Case 2. Left Lung. The consolidation in apex and subapical region (A).

There was bilateral pulmonary edema. The enlarged spleen was adherent to the diaphragm, its capsule thickened and covered with white, firm hyaline plaques. Wedge shaped anemic infarcts and small nodules appeared on sectioned surface. Hyalinized firm nodes, the largest 2 cm. in size, were attached to the capsule especially in the hilus. Similar nodes and flat plaques covered the lower surfaces of the diaphragm on both sides (Figure 4) and the capsule of the

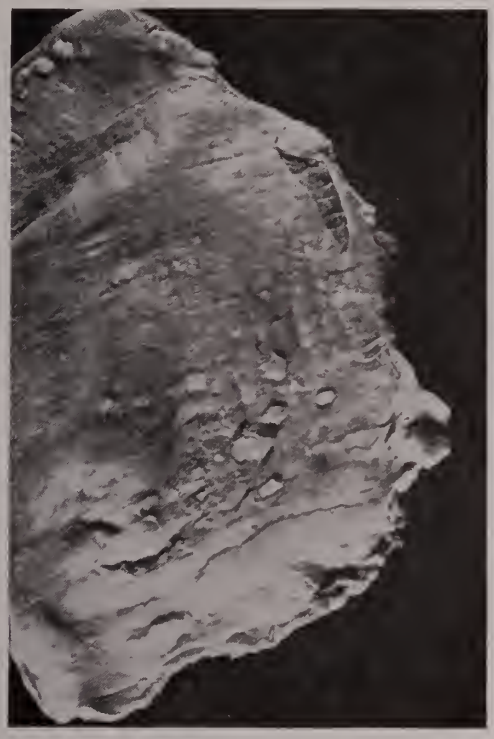


Figure 4

Case 2. Lower surface of diaphragm, with many discrete and confluent nodes due to old, healed periarteritis nodosa.

enlarged liver (weight 2500 Gm.). The fat surrounding the kidney contained a moderate amount of extravasated blood. Both kidneys showed several large recent anemic infarcts. Several nodules from 1 to 2 mm. in size were found in the cortex. An old caseous and partly calcified tuberculous lymphnode, 1 cm. in size, was found in the mesentery. The mucosa of the colon was congested, but did not show changes often encountered in uremia. The other findings were not significant.

Cause of death: Uremia due to periarteritis nodosa of kidneys.

Anatomic diagnosis: Acute periarteritis nodosa of kidneys and spleen. Multiple anemic infarcts of kidneys. Healed periarteritis nodosa of liver, spleen, and diaphragm. Non-resolved pneumonia in left upper lobe. Acute anemic infarct of myocardium. State after recent bilateral nephrostomy.

Bacteriologic findings: Heart blood culture showed diphtheroid bacilli. Nodules from spleen were removed with aseptic precautions. Smears and cultures were negative. A guinea-pig and rabbit were inoculated. They showed no evidence of tuberculosis or of any other significant changes after six weeks and ten weeks respectively.

Microscopic findings. Kidneys: In addition to extensive, sharply delimited areas of necrosis and diffuse infiltration with leucocytes, the arteries of different sizes and the arterioles showed necrosis of the walls with complete destruction of cytologic details. They were surrounded by masses of leucocytes, many of them eosinophilic, and by lymphocytes. In some places the nodular character of the infiltration was clearly preserved, in some the infiltration and necrosis was limited to the adventitia and to the outer layer of the muscularis, the inner layers were preserved, but the intima was thickened and the lumen narrowed. The glomeruli showed only secondary changes. The involvement was clearly advancing from the vicinity. Acute arterial and arteriolar changes similar to those in the kidneys, but not as widely spread, were present in the spleen, liver, heart, diaphragm, adrenals, lymphnodes, and left lung. The lesion in the apex of the left lung showed diffuse necrosis with areas of suppuration and at the periphery a wall of granulation tissue with many multinucleated giant cells (Figure 5). Sections were stained for tubercle bacilli and for spirochetes with negative results. The similarity between this lesion and the renal infarcts was apparent. The hard nodes in the spleen, liver and on the diaphragm showed dense hyalinized fibrous tissues. Some were surrounded by masses of lymphocytes, plasma cells and by varying numbers of eosinophilic leucocytes. In some indistinct vascular outlines could be discerned. These nodes were interpreted as old, healing or healed lesions of periarteritis nodosa.



Figure 5

Case 2. Lesion in left lung showing necrosis (right lower corner), granulation tissue and multinucleated giant cells (to left fom center).

Microscopic diagnosis: Acute periarteritis nodosa of kidneys, left lung, spleen, liver, lymph nodes. Anemic infarcts of kidneys and heart. Anemic infarct and granuloma of left lung. Healed periarteritis nodosa of spleen, liver and diaphragm. Acute suppurative pyelonephritis and nephritis.

Summary. A rapidly developing uremia and pulmonary consolidation were due to periarteritis nodosa. Healed lesions of the same condition were found. The patient survived the previous attack or attacks because the location did not interfere with vital functions. The last attack was fatal because it resulted in renal insufficiency.

CASE 3.

Dr. H. Rolnick: A white 54 year old man was admitted on December 4, 1941 with a history of pain in the right abdomen since ten days. The pain radiated from the right lower quadrant upward to the back. It was dull and constant. When the pain first started, patient felt a desire to urinate but was unable to do so. He was catheterized and since that time voided spontaneously. There was no burning but patient complained of frequency and nocturia. Only small amounts of urine were passed each time. Patient complained also of belching, heart burn (relieved by sodium bicarbonate), anorexia, loss of eight pounds of weight in last two weeks, headache, nausea, and constipation.

The patient had an attack of cholecystitis four years ago and an appendectomy twenty-three years ago.

At the time of admission the blood pressure was 130/80, abdomen soft, flat, and tender on deep palpation in right lower quadrant. Temperature on admission was 101.4 F.

Laboratory Findings: Blood sugar 105 mg. per 100 cc. of blood, urea nitrogen 10 mg. Urinalysis: 5 white blood cells per high power field, faint trace of albumin. RBC. 3,800,000, WBC. 15,500, Hb. 13.5 Gm., band forms 3 per cent, neutrophilic leucocytes 85 per cent, eosinophiles 1 per cent, lymphocytes 7 per cent, monocytes 4 per cent.

Intravenous urogram revealed an enlarged right renal shadow with deformity and compression of the calices. The fever rose daily, assumed a septic course and on December 7, four days after he had been admitted to the hospital, it rose to above 105 F. Because of the high fever, the relatively acute onset and negative urinary findings renal carbuncle or perinephritic abscess were considered. His condition became worse and a right nephrectomy was done the next day. At operation the renal mass was large, felt somewhat soft and the fatty capsule was quite adherent to the kidney. The posterior peritoneum was injected and showed evidence of hemorrhage. The kidney was removed together with the surrounding fat. A large perirenal hematoma was found upon sectioning of the mass. The patient had a stormy post-operative course. On the third post-operative day, the pulse became irregular and feeble and there was marked dyspnea. He improved on the following day and thereafter had an uneventful course. He is now well and working.

Dr. I. Davidsohn: The kidney together with the surrounding fat weighed 1030 Gm. and measured 16 x 12½ x 10 cm. The consistency was soft. The perirenal fat measured in places up to 20 mm. in thickness. There was present extravasated clotted blood between the kidney and its capsule in a layer which measured up to 25 mm. in thickness (Figure 6). The blood was present on the anterior and posterior surfaces

and along the outer margin but not at the poles which were free. On sectioned surface several cysts were present varying in size from 10 to 25 mm. with smooth inner surfaces and not connected with the kidney pelvis. The cortex was swollen up to 8 mm. Its structure was fairly distinct. The clotted blood could be removed only with considerable difficulty from the surface. Its removal disclosed the presence of several larger cysts than were suspected before, one of them measuring up to 6 cm. with a gray

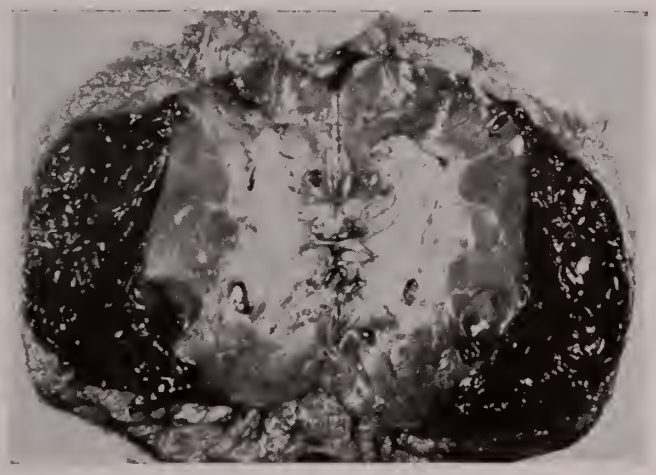


Figure 6

Case 3. Right kidney with massive perirenal hemorrhage. Large cyst near lower pole and several smaller cysts.

node 5 mm. in diameter in its wall. Some of the cysts were filled with a slightly hemorrhagic fluid but most of them contained a clear fluid. The kidney pelvis was of normal size, the mucosa showed no abnormalities. The ureter of which about 10 cm. was present presented no gross abnormalities. Dissection failed to reveal a blood vessel responsible for the hemorrhage. After the fat and the hematoma were removed the kidney weighed 200 Gm.

Microscopic findings. The glomeruli were intact. The tubular epithelium showed cloudy swelling. The interstitial tissue was in places infiltrated with many plasma cells, eosinophilic leucocytes, and lymphocytes. These inflammatory changes were particularly pronounced in some areas where they obliterated the normal structure of the kidney parenchyma. Some of the medium sized and small arteries showed fibrinoid swelling and necrosis of their walls and marked prolixeration of the intima with narrowing of the lumen. Some were surrounded by large numbers of leucocytes, many of them eosinophilic, and by lymphocytes. In most places only the adventitial layer was infiltrated, while in some areas the infiltration extended into the media and even into the intima. Some of the infiltrations had the appearance of circumscribed nodules consisting of granulation tissue with many fibroblasts, eosinophilic leucocytes, and plasma cells. These typical nodular lesions were, however, rather few in number. The above described inflammatory and vascular changes were most pronounced in the vicinity of a cavity near the lower pole. This cavity was surrounded by a rather thick layer of connective tissue which was diffusely infiltrated with neutrophilic and eosinophilic polymorphonuclear leucocytes, lymphocytes, and plasma cells. A few multinucleated giant cells were seen in this area. The cavity was filled with clotted blood and lined with granulation tissue which grew in from the wall into the lumen and infiltrated its contents. Many small hemorrhages were present in the cortex. Large amounts of clotted blood covered the surface of the kidney and granulation tissue grew in from the kidney parenchyma, infiltrating and organizing the hemorrhages. Blood pigment was present in the granulation tissue as well as in the epithelial cells of some of the tubules. The cysts were lined with cuboidal epithelium and filled with pink staining material. The grey node in the

wall of one of them, mentioned in the gross description, was made up of elongated and irregular tubular spaces lined with one layer of cuboidal cells. It showed many papillary projections in the lumens of these spaces and presented the picture of a papillary adenoma. The mucosa of the kidney pelvis was lined with transitional cell epithelium. The tissue underneath was infiltrated with lymphocytes, plasma cells, neutrophilic and eosinophilic leucocytes. Some of the tubules in the medulla as well as in the cortex were filled with a leucocytic exudate.

Diagnosis: Periarteritis nodosa. Chronic pyelitis. Acute ascending pyelonephritis. Multiple cysts. Old and recent renal and peri-renal hemorrhages. Papillary adenoma.

DISCUSSION

This disease was first described by Kussmaul and Maier in 1866[1], but it is probable that it had been observed already by Rokitansky in 1852[2]. There are well over 250 case reports in the literature.

Antemortem diagnosis used to be quite rare, only in about from ten to twelve per cent of cases, according to the reports in the literature. Recently the frequency of cases diagnosed during life has been on the increase, as evidenced by a recent report of Banowitch, Polayes and Charet[3]. In their series of five cases four were diagnosed during life.

The clinical picture is extremely variable. This is not surprising in view of the fact that the organ involved, the arteries of different sizes and the arterioles, are present in all tissues of the body and the manifestations depend upon the location of the involved arteries and on the function of the organ in which the involved artery is located. As a rule the clinical picture is that of an acute disease. Pain in the muscles of the legs and calves, as well as in the muscles of other regions of the body are frequently observed and the disease may simulate polyneuritis and myositis. In some instances it presents a septic picture, in some it resembles an acute hemorrhagic glomerulo-nephritis with renal insufficiency as in our case 2. Hemorrhages in various parts of the body, some from ulcers of the intestinal mucosa, occasionally severe and even fatal, have been observed. Cases with perirenal hemorrhages, similar to our Case No. 3, have been reported by other authors. In view of the fact that there is hardly an organ in the body which was not found affected in the reported cases, one may encounter manifestation of the most unexpected type.

The duration varies from as short as six days to months and even a year. Recurrences have been observed as evidenced, for instance, by our Case No. 2. Healing may occur. There are cases on record which were observed for many years without recurrence of symptoms, and one case is known to have remained well for twenty-five years.

The gross anatomic changes are those of nodules, occasionally felt in the skin and in the subcutaneous tissue, and infarcts resulting from the occlusion of arteries. Cutaneous nodules are important for the diagnosis during life but they have been observed only in about 20 per cent of the reported cases. Anemic infarcts in the kidney, especially in the absence of endocarditis, as a source of emboli, or of leukemia, should direct one's attention to the diagnosis of periarteritis nodosa.

The studies of the microscopic changes suggest several successive stages in the development of the lesions. The earliest change is a necrosis of the media of the artery leading to a loss of the normal structure. The media has a homogenous pink appearance in the hematoxylin and eosin stain. The earliest stage of necrosis is known as fibrinoid swelling. The necrosis affects the entire circumference of the blood vessel or only a segment of the circumference. Then follows an exudation of inflammatory cells beginning in the adventitia. Sometimes the pressure within the blood vessel causes a rupture of the wall and a hemorrhage which may be fatal especially in some vital organs, for instance, in the brain, or it may lead to a severe hemorrhage into the lumen of the gastro-intestinal tract. The exudate contains many leucocytes with a varying admixture of eosinophiles. The third stage is the formation of a granuloma within and around the blood vessel wall, especially in the adventitia. This granulomatous nodule led to the name of the disease. In this stage one sees frequently reactive proliferation of the intima or, due to an extension of the necrosis to the intima, thrombosis and occlusion of the blood vessel lumen. This, in turn, brings about infarcts and clinical manifestations depending upon the location and extent of the infarct. The fourth stage is that of healing with the formation of hard nodules or, if the involvement of the wall was segmental, aneurysms may result[4].

The kidney is the most commonly affected organ, lesions in it having been found in 80 percent of the reported cases and, as was shown previously, the kidneys were involved in all three cases of this series. The brain was involved in 8 to 10 percent of the reported cases. Pulmonary lesions, similar to our Case 2, have also been reported and the development of some has been traced with X-rays. Lesions have been observed in the arteries of the eye, jaundice has been reported as a result of lesions in the liver. Occlusion of cornary arteries with resulting infarction have also been described.

In some cases, leucocytosis has been observed up to 65,000 white blood cells, but occasionally leukopenia is present. In the differential blood picture there is an increase of polymorphonuclear leucocytes. Much attention has been paid in the literature to an increase in the number of eosinophilic leucocytes and diagnostic significance has been attributed to this finding. However, marked eosinophilia seems to be quite rare, although there are cases on record with 23 and 79 per cent eosinophilic leucocytes. None of our three cases showed this change. In some instances, an

increase of monocytes has been reported, in one case 38 per cent of them have been recorded. There are occasional instances of a rather marked secondary anemia.

There is no agreement on the etiology of the disease as evidenced by the numerous divergent hypotheses. Tuberculosis, syphilis, rheumatic fever and streptococcus infections have all been suspected but without much success. A specific virus is claimed by some writers as the etiologic agents although no proof has been brought forward. The virus etiology is supported mainly by the occurence in epidemic form in deer and in pigs of a disease with anatomic changes similar to those in periarteritis nodosa. The most recent hypothesis claims that the disease is due to allergy. During an infection, the arteries become sensitized and a subsequent infection brings about a so-called hyperergic inflammation in the arterial walls with the changes previously described. The histologic changes and the rapidity with which the lesions develop, lend some support to this concept. The sensitizing infection does not have to be due to the same micro-organism as the second infection. It is interesting in this connection that careful case histories reveal in many instances that the attack of the disease was preceded in many patients by infections like erysipeals, cellulitis, diphtheria, rheumatic fever, gonorrhea and similar other infections in the recent past. Blood cultures have shown, in several reported instances, streptococci and so have cultures of suspensions of the lesions themselves.

In view of the fact that the formation of nodules is not the outstanding feature of the disease and that the lesion is certainly not merely periarterial, it has been suggested, and with good reason, that the term periarteritis nodosa should be replaced by panarteritis.

The organs that have been reported as involved include kidney, spleen, heart, stomach, intestines, skeletal muscles, suprarenals, liver, pleura, nerves, internal mammary artery, arteries of neck, inter-costal arteries, arteries of epicardium, thyroid, diaphragm, prostrate, spermatic duct, testes, epididymis, brain, pulmonary artery, skin and appendix.

More complete references to the literature may be found in recent reviews[3, 5, 6].

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DANGERS OF BOTULISM IN HOME CANNING ARE POINTED OUT BY THE JOURNAL

The dangers of botulism, particularly during the coming home canning season when many persons who never before attempted home canning will be preserving garden produce, are pointed out by *The Journal of the American Medical Association* for April 17. *The Journal* says:

"Meyer and his associates in California have gathered statistics on 367 outbreaks of botulism in the United States since 1899. Only 83 of the outbreaks have been due to commercially canned foodstuffs; with one possible exception, outbreaks have not occurred in nearly twenty years from this source. The other 284 outbreaks have been caused by foods canned in the home. The total cases of the disease for the forty-three years numbered 1,052 with 687 deaths, a fatality rate of 65 per cent. How many other unrecognized cases have occurred is unknown. During the coming canning season many persons who never before attempted home canning will preserve garden produce. The danger from botulism is ever present unless proper precautions are taken. Faust, discussing methods of home canning, emphasizes the necessity of the pressure cooker with an accurate gage or thermometer for nonacid foods, such as string beans and corn. Any such foods that have been processed in any other manner must be reboiled for at least fifteen minutes before tasting or using. Any home canned food that shows the slightest evidence of spoilage should not even be tasted, for the toxin of the botulinus bacillus is the most powerful poison known. The problem calls for concerted effort by agricultural advisers and public health personnel in warning against faulty methods of home canning and alertness of physicians in recognizing symptoms and administering antitoxin early and in adequate amounts."

On the sides of buildings in Occupied France portraits of pigs have appeared, with the caption:

BORN IN GERMANY
FATTENED IN FRANCE
SALTED IN THE CHANNEL
AND ROASTED IN ENGLAND

Office of War Information

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

The April issue of the MISSISSIPPI VALLEY MEDICAL JOURNAL was designated "Chicago Number" inasmuch as all of the papers contained therein were from Chicago members who participated in the All-Chicago program conducted by the Mississippi Valley Medical Society last fall.

At its last meeting, the Chicago Society of Allergy re-elected the same officers for the coming year.

President Michael Zeller
President-Elect L. E. Markin
Secretary-Treasurer Helen C. Hayden

Illinois Medical Journal.
Gentlemen: —

I was very much pleased to receive the March edition of the Journal. It finally caught up with me. It certainly seems good to read about the things back home; and needless to say it really fills in the idle hours.

If possible I would appreciate receiving the Journal continually. My present address is

1st Lt. K. F. Kapov 0505893
221st Station Hosp.,
APO No. 856
c/o Postmaster
New York, New York.

Hoping you can oblige the above request without great confusion.

I remain
Fraternally Yours
K. F. Kapov, 1st Lt. M.C.

MARRIAGES

Omar Fareed to Mrs. Martha Carr Moon, both of Chicago in Carson City, Nev., recently.

Harry E. Grant, Easton, Ill., to Miss Marietta Crosthwait of Chicago in March.

Guy O. Pfeiffer, O'Fallon, Ill., to Miss Mary Kathryn Kubitschek of St. Louis, March 9.

Kenneth H. Schnepp, to Miss Lois Catron, both of Springfield, March 31.

DEATHS

Hugh Atlee Beam, Moline; Northwestern University Medical School, 1903. Director of Rock Island County Tuberculosis Sanatorium since 1935. Past president of the Upper Rock Island County Tuberculosis Association; was one of the founders of the first tuberculosis clinic in Rock Island County. Medical examiner for the rural Rock Island County draft board since 1940. Served in same capacity in World War I until 1918 when he became a captain in the Army Medical Corps. Died in St. Luke's Hospital, St. Louis, March 30, 1943 at the age of 61 years.

James Barton Bradwell; Chicago; Hehnemann Medical College & Hospital, Chicago, 1902. Publisher of the Chicago Legal Bulletin. Had practiced medicine on the south side for a number of years. Died April 8, 1943 at the age of 64 years.

Sylvan Coombs, Chicago; Rush Medical College, 1891. On surgical staff of Grant Hospital since 1900; former surgeon at Cook County Hospital. Had practiced medicine 51 years. Died April 8, 1943 at the age of 75.

John A. Dinwoody, Chicago; Trinity University College of Physicians & Surgeons, Toronto, 1890. Practiced in Chicago's loop more than 50 years. Was an associate professor of medicine at Chicago Medi-

cal School and member emeritus of the Chicago Medical Society. Was medical examiner for merchant marines during World War I. Died April 17, 1943 at the age of 76.

Albert Edward Doe, Chicago; Chicago Medical School, 1921; a member of the medical department of the Chicago Rapid Transit Company; aged 61; died, February 13, in the Albert Merritt Billings Hospital of pneumonia following an operation.

William V. Guttery, Middletown; Washington University School of Medicine, St. Louis, 1881. Had practiced in Logan County for 52 years. Was member of the "Fifty Year Club". Died April 21, 1943 at the age of 92.

Elnathan P. Hatheway, Ottawa; Rush Medical College, 1895. City health officer of Ottawa; practiced medicine 48 years. Died April 4, 1943 at the age of 84 years.

Oscar House, De Soto; St. Louis College of Physicians & Surgeon, 1907. Jackson County physician for 35 years. Was killed March 17th when his car was struck by a train. He was 67 years old.

Carl Ireneus, Chicago; National Medical University, Chicago, 1905. Was pathologist at Michael Reese Hospital. Died April 16, 1943 at the age of 71.

Theodore C. Koessel, Chicago; Bennett Medical College, 1896. Practiced medicine in Chicago for 45 years. Died April 20, 1943 at the age of 70.

William B. Kunze, Belleville; St. Louis University School of Medicine, 1906. From 1908 to 1933 was in charge of Herman Kiefer Tuberculosis Hospital in Detroit. Died of tuberculosis April 1, 1943 at the age of 61.

William H. G. Logan, Chicago; Chicago College of Medicine and Surgery, 1905; honorary degrees from Loyola, the University of Michigan and the National University of Ireland. Was dean and professor of oral surgery Chicago Dental College of Dental Surgery, Dental School of Loyola University. Served throughout World War I resigning with the rank of Coloncl. Died April 6, 1943 at the age of 70.

Elam Rowland McBroom, New Canton; Chicago College of Medicine & Surgery, 1908. Practiced medicine in Peoria until 1922 when he was admitted to the ministry of the Methodist Episcopal church. Since then has served as pastor and physician to rural communities in Illinois. Died March 18, 1943 at the age of 66.

Wallace Brown Perry, Lincoln; St. Louis University School of Medicine, 1918; past president of Logan County Medical Society. Practiced in Lincoln 26 years. Died of a heart attack April 8, 1943 at the age of 52.

George M. Redman, Chicago; Chicago Medical School, 1921. Had practiced over twenty years. Died in Southtown Hospital March 27, 1943 at the age of 50 years.

RED BLOOD CELLS SALVAGED

Red blood cells, formerly a waste by-product in the preparation of blood plasma, are now being salvaged. A saline solution of the red cells from blood collected by the Red Cross for the armed forces is being distributed in Detroit to eight Wayne County hospitals, to supplement direct transfusions or use of blood in "banks."

Detroit, among the thirty-one blood donor centers of the Red Cross in the United States, is the first to use the red blood cells, according to Dr. Warren B. Cooksey, technical supervisor of the Detroit center. While the thirty-one Red Cross blood donor centers have provided more than 1,500,000 pints of blood plasma for the treatment of armed forces and others, a paradox in the situation has been that, except on a very small scale, the red cells have been separated from the plasma and thrown away, although it is these cells, traveling in millions in the blood, which distribute to all tissues the oxygen they require.

The function of blood plasma, administered to patients, is to restore volume to the circulatory system. Without this volume the remaining blood cells and those being manufactured in the bone marrow cannot circulate.

Blood plasma is prepared for preservation over long periods. No means have been discovered for preserving and shipping red cells in the same manner, but when these cells are put in some favorable solution they can be used within one week after the blood has been drawn from a donor.

Three months ago the Detroit center undertook the preparation of this solution, saving all red cells instead of treating them as waste, and less than a month ago delivery of the solution was undertaken to nearby hospitals.

"This means that the blood banks in these hospitals may be tremendously supplemented," Dr. Cooksey said. "In any general hospital from 50 per cent to 60 per cent of patients needing new blood, either by direct transfusion or from the blood bank, are clearly cases in which the red cell solution serves just as well as the transfusion of bank blood. All red cell solutions are typed, as in direct transfusion blood or that preserved in blood banks.

"Red cells are universally needed in anemia cases. In cases of shock, only blood plasma is needed, for in shock, plasma, the fluid element of the blood, is rapidly absorbed by the body tissues. Use of the red cell solution has proved to be a remarkable aid in the treatment of various types of anemia."—*Science News Letter,* February 27, 1943.

Be not afraid of life. Believe that life is worth living, and your belief will help create the fact.

—*William James.*

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

SEASONABLE SONNETS

MAY

With us the first of May brings childrens play,
In other countries anarchistic deeds;
No more we shiver through a frosty day,
Instead we mow the lawn and pull up weeds.
A sharp eyed bird peers out from shaded nest,
The dandelions cover lawns with gold;
On Mothers Day that one with whom we're blest
Is justly given honors manifold.
The gardens now are coming into flower,
Profusely blossoms carpet all the hills,
The song birds fill the air from leafy bower,
It's summer clothes instead of fuel bills.
For women every day is decoration day,
For soldier dead it comes but once a year, in May.

SPRING

The dogwood now is barking, the skylarks are sky-larking, the humming birds are humming in the trees. I see the cowslip slipping, the catnip shyly nipping, the weeping-willow weeping in the breeze.

The cauliflower is calling, the cat-tails caterwauling, the daffodils are daffy on the lawn. The bumble bee are bumbling, the tumble-bugs are tumbling, the pussy willow's purring at the dawn.

The crocuses are crowing, the sweet sweet-william growing, there's music from the canterbury bells. I know that Spring is springing when blue-bell bells are ringing and cuckoo's coo with gladness in the dells.

HATS

Each wife comes home with a thing on her head,
A thing that she calls a hat;
It fills one full of a shivery dread,
This awful thing that she wears on her head,
But fashion decrees it be that.
Cheer up, styles always are changing 'tis said,
Such freaks can not long abide,
Yet hats that come may be much worst instead;
If things like these are on top of her head,
Just what may be hope for inside?

Geriatric Jocularities.

Uncle Avery was one hundred years old so I went out to his home to congratulate him. He puffed away at his pipe, looked at me rather quizzically and said, "What fer, today's jes' like any other day."

I asked him what he had done on his hundredth birthday. "O, nothin' much. Jes' chopped a little wood an' went out in the timber an' shot a few squirrels."

I asked him how long he had smoked a pipe.
"I dunno. 'bout 90 years I guess."

"That's a long time," said I, "and I suppose you smoke it all the time."

"Nope, Nope," and his eyes twinkled, "only when I'm awake."

"Well, Uncle Avery, a hundred years is a long time to live. And I suppose you have never taken any vitamins."

"Nope. I never take none o' them fancy drinks. Jes' reg'lar licker. Four, five nips a day. Kinda makes ye feel better."

A hundred years old that day!

IT IS SPRING

When the sun outside is gleaming,
And you find yourself day-dreaming,
And of routine you just cannot get the swing:
When there is no concentrating
And your thoughts are all migrating,
It is Spring.
When you cannot keep on working
But devote your time to shirking
And your conscience gives you many a gentle sting
When your mind seems dull and hazy
And you know that you are lazy,
It is Spring.
With the gentle zephyrs purring,
Though your conscience is demurring,
You abandon all your work and gaily sing
Of the birds and bees and flowers
Of the grass and leafy bowers —
It is Spring.

Professor Paresis admits that it may give one a lot of satsifaction to tell a man just what you think of him but it is rarely worth what it costs.

Tuberculosis is a chronic disease but in times of stress with restrictions on diet and hygienic living, its frequency always increases. Already the rates are beginning to rise, even in this country, and abroad there are hints that tuberculosis is taking its usual war-time toll. Ann'l Rep. Saranac Lab. for Study of Tuber., 1941.

During Food Shortages...

It is well to bear in mind that dried brewers yeast, weight for weight, is the richest food source of the Vitamin B Complex. For example, as little as 1 level teaspoonful (2.5 Gm.) Mead's Brewers Yeast Powder supplies:

45% of the average adult daily thiamine allowance
8% " " " " " riboflavin allowance
10% " " " " " niacin allowance

— in addition to the other factors that occur naturally in yeast such as pyridoxine, pantothenic acid, etc. Following are suggestions for palatably mixing 1 level teaspoonful Mead's Brewers Yeast Powder:

(1) Shake in cocktail shaker with 4 ounces of milk (with or without 1 level teaspoonful sugar and cocoa).

(2) Stir with fork into ¾ ounce of ketchup or chili sauce. Optional, add a few drops of lemon juice.

(3) Stir with fork into 3 ounces of soup (preferably thick soups such as bean, pea, oxtail, beef, etc.).

(4) Spread on bread with 2 to 3 times the amount of peanut butter.

(5) Add 1 level tablespoonful (and a little extra salt) to 2 cups of meat stock gravy.



Mead's Brewers Yeast is supplied in 6-oz. bottles, economically. At the rate of even 2 level teaspoonfuls per day, per adult, a bottle should last over a month. Also supplied in 6-grain tablets. 250 and 1000 tablets per bottle. All Mead Products are advertised only to the medical profession.

Why not try this recipe at home? It makes good gravy taste meatier. Send for tested wartime recipes containing yeast.

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Book Reviews

THE ANTIGONADOTROPIC FACTOR WITH CONSIDERATION OF THE ANTIHOROME PROBLEM. By Bernhard Zondek and Felix Sulman, Hebrew University, Jersalem. The Williams & Wilkins Company, Baltimore, 1942. Pp. 185. Price $3.00.

This book is divided into five chapters. The first is a historical review and the second is a discussion of the antihormone theory of Collip, both of which would be of interest to a man engaged in private practice. The authors also define the nomenclature which they use. Part of Chapter IV would be of some interest to the busy war time practitioner. The remainder of the book is devoted to a survey of the literature regarding animal experimentation carried on by other workers and some account of the work of these very profilic authors themselves. For the most part the book will interest laboratory workers in the field of endocrinology. Part of it helps to explain the clinical observation that victims of hypopituitarism do well on frequent injections (two or three per week) of pituitary preparations but if the frequency of these injections is not reduced after about 90 days the patients tend to revert to their pretreatment status. It is an interesting book but not helpful to the busy doctor for the duration.

BLOOD SUBSTITUTES AND BLOOD TRANSFUSION. Stuard Mudd, M. A., M. D., Professor of Bacteriology, University of Pennsylvania School of Medicine, and William Thalhimer, M. D., Director, Human Serum Division, Public Health Research Institute of the City of New York, Inc. Charles C. Thomas, Springfield, Illinois. 1942 — 407 pages; illustrated. Price $5.00.

The subject of blood transfusions and the use of blood substitutes is one of the most important considerations before the medical profession today, for the present war these considerations are of great interest to the medical personnel of the armed forces. Although given an original impetus in World War 1, these factors have been developed more extensively in the present world conflict than ever before.

The book, developed as a symposium-monograph, represents papers and discussions at a recent annual meeting of the American Human Serum Association, held in Cleveland. Papers and discussions have been condensed in the book. More than 75 contributors have participated in its development, and the field has indeed been well covered. The circulation in traumatic shock, studies on etiology of traumatic shock, the vascular and cellular dynamics of shock, are thoroughly considered in the first four chapters of the book.

Methods for drying plasma and serum are well presented along with their clinical use. With the present endeavor to get mass production of dessicated plasma for the armed forces, a considerable amount of space in this volume is utilized to good advantage in the discussion of the problems which have been encountered, showing that technics have been developed and later discarded, as better ones are brought out. Likewise the preparation and use

(Continued on page 32)

THEY DESERVE THE SMOKE THEY LIKE THE BEST*



YOUR gift of cigarettes to men in service is the most welcome of all remembrances. And the preferred brand, according to actual survey, is Camel.*

Send Camel—the cigarette noted for mellow mildness and appealing flavor. It's one way, and a good way, to express your appreciation of the sacrifices being made by our fighting forces.

Camels in cartons are featured at your local tobacco dealer's. See or telephone him—today—while you have the idea in mind.

*With men in the Army, Navy, Marine Corps, and Coast Guard, the favorite cigarette is Camel. *(Based on actual sales records in Post Exchanges and Canteens.)*

• • •

Remember, you can *still* send Camels to Army personnel in the United States, and to men in the Navy, Marines, or Coast Guard *wherever they are.* The Post Office rule against mailing packages applies only to those sent to men in the overseas Army.

CAMEL COSTLIER TOBACCOS

BUY WAR BONDS AND STAMPS

BOOK REVIEWS (Continued)

of liquid and frozen plasma are discussed, and the element of possible toxicity of serum has been thoroughly determined through clinical methods described by the authors.

At this time there is a considerable amount of research under way to determine the value of the several blood substitutes which have been suggested, and their proper evaluation has been made in this monographic work. The Rh factor in transfusion and pregnancy and its role in the etiology of erythroblastosis fetalis are given proper consideration, and should be of great interest, especially to those who give repeated transfusions in desperate cases.

There is much information of value in the book, and it is quite obvious that those responsible for its development have consulted many of the outstanding workers in this strictly modern field. Likewise there should be a place for the symposium-monograph, especially at this time when the indications for blood and blood substitutes are so great throughout the entire world.

Indigestion, Its Diagnosis and Management. Martin E. Rehfuss, M. D., Professor of Clinical Medicine and Sutherland M. Prezost Lecturer in Therapeutics, Jefferson Medical College. W. B. Saunders Company, Philadelphia. 1943; 556 pages; Illustrated; Price $7.00.

The author has had an abundance of experience over a period of years, to develop a really worthwhile book covering the field of gastro-intestinal disorders. Much information is given relative to the importance of carefully taken histories, and giving the patient an opportunity to tell his or her story in detail. The author, although an Internist, realizes the fact that many cases seen with symptoms of the digestive tract may prove to be amenable to surgery, and he does not hesitate to give both medical and surgical considerations.

Many of the newer methods of diagnosing ulcers of the gastro-intestinal tract are outlined in much detail, with many excellent illustrations of the X-ray findings and their interpretation, which will be of much interest and value to those who are not so expert in their interpretations of the G. I. films. The use of stomach and duodenal tubes and their modifications, the value of gastroscopy and other more recent additions to the diagnostic accessories, are presented clearly for the general reader.

The book is well illustrated, and much information is given relative to the value of diets in gastro-intestinal disturbances and in the numerous graphs which are presented. The author devotes somes space to a consideration of the so-called "nervous indigestion", a condition which does exist, yet must not be too hurriedly accepted as the actual condition until other disturbances have been eliminated in the differential diagnostic considerations.

Dr. Rehfuss is indeed to be congratulated in the development of a book which will no doubt be a popular one, and it should definitely find a place in the average modern medical library.

Essentials of Gynecology. Willard R. Cooke, M. D., Professor and Head of Department of Obstetrics and Gynecology, University of Texas. J. B. Lippincott Company, Philadelphia. 1943; 474 pages; 197 illustrations; 10 in color. Price $6.50.

The author believing that a thorough knowledge of the normal is essential before one is intelligently able to distinguish the abnormal and institute proper therapy, has devoted a considerable amount of space in the book for such a consideration. The anatomy, embryology, physiology and endocrinologic considerations of the female reproductive system are well described. There is an especially interesting chapter on "the patient herself," which gives careful consideration to the psychologic factors which often are overlooked.

Unlike many other books on this subject, the author stresses medical treatment, with a considerable amount of consideration of the modern endocrine therapy in gynecologic disturbances.

The book is entirely practical throughout, and is written not to act as a guide for the surgeon to give technique to the most minute detail, but to be considered as an outline so far as surgery is concerned. It should appeal especially to the student, in that it gives both sides of a number of controversial subjects pertaining to gynecologic practice, and should likewise be of much service to the general practitioner who

(Continued on page 34)

TECHNIC OF LIPIODOL INSTILLATION

HYSTEROSALPINGOGRAPHY



THE uterine cavity and the fallopian tubes are accurately outlined by the instillation of Lipiodol—iodized poppyseed oil containing 40 per cent iodine in chemical combination. Under sterile precautions, the warmed contrast medium is injected into the cervix through a cannula. The oil, flowing through the tubes and spilling into the peritoneal cavity if patency obtains, outlines the lumens of these structures. By this method, tubal patency is ascertained, as are developmental defects of the uterus and fibromyomas; differentiation is easily made between uterine and adnexal tumors. Excessive pressure in injecting the oil should be avoided; the procedure should be carried out during the intermenstrual phase of the cycle.

with Pneumoperitoneum

The injection of carbon dioxide into the abdominal cavity in conjunction with Lipiodol instillation permits of visualization of the soft tissue structures. Adnexal tumors and inflammatory masses, as well as ovarian enlargement and tumors, cast their own shadows on the roentgen film. Thus a comprehensive examination of the pelvic contents is possible, disclosing diagnostic information not otherwise obtainable. The CO_2 is injected under low pressure through the cervix if the tubes are patent, otherwise through an abdominal wall puncture. About 500 cc. is required. The patient is then placed in a prone position, the hips elevated above the head so that the body forms an angle of 23° to the horizontal plane, and films are exposed with the tube centered over the coccyx.



Complete details on hysterosalpingography as well as the many other valuable applications of Lipiodolography are graphically presented, by text and illustrations, in a new brochure "The Applicability of Lipiodol in Roentgenography and the Technic of its Use." Physicians are invited to send for a complimentary copy.

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BOOK REVIEWS (Continued)

must do some office service in this type of case.

Much space in the book is devoted to the general principles of operative treatment and the more commonly useful operations of gynecology. These subjects will give much information to either student or practitioner; and it is the opinion of the reviewer that the book should be of much value to members of either student or practitioner groups.

SEROLOGY IN SYPHILIS CONTROL: PRINCIPLES OF SENSITIVITY AND SPECIFICITY. Reuben L. Kahn, M.S., D. Sc. The Williams & Wilkins Company, Baltimore. 1942. Price $3.00.

It has been 20 years since the author brought out his now rather generally accepted test for syphilis. In this book he does not discuss the technical phases of the serologic tests, but endeavors to evaluate recent developments in sensitivity and specificity, which deal more particularly with the utilization of present knowledge in the endeavor to determine the tests which are best in the diagnosis and treatment of the disease.

The control of syphilis is of more general interest today than ever before, with the tests being essential for admissions to the armed forces, candidates for matrimony, as a part of the preemployment examination for industry, and with many physicians today, as a part of the regular physical examination. The material in the book represents a series of six talks made by the author at the U. S. Army and U. S. Navy Medical schools, Washington, and of classroom lectures given at the University of Michigan to physicians taking courses in venereal disease control.

There has been some confusion on the part of many physicians as to which of the several tests for syphilis are best, and how they may be best utilized. The author endeavors to give the answer in this book. The sections dealing with the role of the health officer in syphilis control is of special interest to the many in public health

(Continued on page 36)

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BOOK REVIEWS (Continued)

work. A considerable amount of interesting data will be found in this small volume, and it should be of value to many at this time when the serologic tests for syphilis are being made so extensively.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS (Eighth Edition) Joseph B. DeLee, A.M., M.D.; J. P. Greenhill, B.S., M.D. 1101 pages with 1074 illustrations; 209 in color. W. B. Saunders Company, Philadelphia; 1943; Price $10.00.

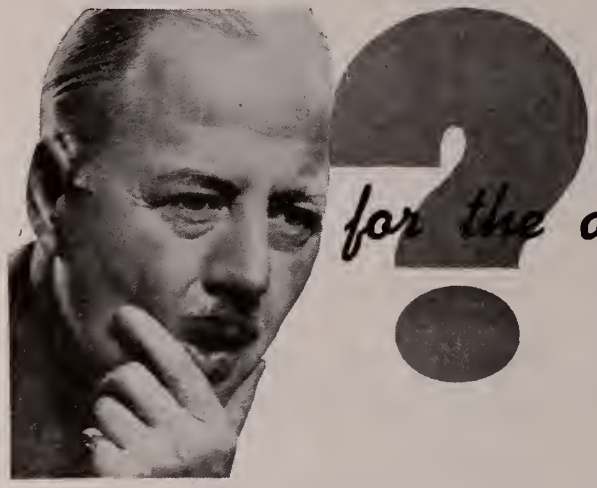
The Principles and Practice of Obstetrics, first written by Dr. DeLee in 1913, has undergone six editions subsequently, under the supervision of Dr. DeLee. Dr. Greenhill having been closely associated with Dr. DeLee, was asked two years prior to the death of Dr. DeLee, to prepare the eighth edition. The present author has followed closely the plans used in previous editions, although the book has been entirely reset.

This has always been a monumental work, and one which has been used extensively by the physicians of America, for in it has been found the principles and practice of obstetrics in its entirety. The first portion of the eighth edition has been re-arranged, the author doing this to prevent confusion. There have been many new chapters, and additions in keeping with the times, these dealing especially with obstetrical and gynecological endocrinology, the vitamins and their uses in obstetrics, erythroblastosis fetalis, and the Rh factor, roentgenologic considerations in pregnancy, use of the sulfonamides, and several other strictly modern considerations applying to obstetrical practice and knowledge.

The book once more should be of inestimable value to many physicians desirous of obtaining not only the latest information on obstetrical subjects, but as a reference work which will be used frequently in the average practice.

CLINICAL DIAGNOSIS BY LABORATORY METHODS; (10th edition) James Campbell Todd, Ph.B.,

(Continued on page 38)



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Iron is prophylactically and therapeutically specific for hypochromic anemia resulting from deficiency of this element. Hemoglobin regeneration following blood donation is far more rapid when supplemental iron is administered than when it is withheld.[3] Moreover, ferrous sulfate is recommended as the most efficiently assimilated form of iron.[4]

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3 gr., exsiccated... *Ferrous Sulfate*... (U.S.P.)	20 gr., (equiv. to 4.3 gr., U.S.P.)
0.25 mg..... *Thiamine Hydrochloride* (Vitamin B_1).....	1 mg.
0.5 mg..... *Riboflavin* (Vitamin B_2 or G).....	2 mg.

1. Heath, C. W.: J.A.M.A., 120:366, October 3, 1942. 2. Leichsenring, J. M., Donelson, E. G., and Wall, L. M.: Am. J. Dis. of Children, 62:262, August, 1941. 3. Fowler, W. M., and Barer, A. P.; J.A.M.A., 118:421, Feb. 7, 1942. 4. Santz, A. C.: Am. J. Med. Sci., 201:790, June, 1941.

BOOK REVIEWS (Continued)

M.D., and Arthur Hawley Sanford, A.M., M.D. 911 pages; 380 illustrations. W. B. Saunders Company, Philadelphia 1943 — Price $6.00.

For 35 years this has been a popular book, and during this period many changes have been made in succeeding editions. Since the death of Dr. Todd, his associate, Dr. Sanford, has been carrying on in its revision, having been associated with the author for the last five editions of the book. It is written so as to appeal not only to the student and teacher, but also to the technologist and the physician in the field of practice.

A considerable amount of new material appears in this volume, such as methods for determining blood levels in the use of the sulfonamides and sulfonamide crystals in the urine. Additional data will be found in the ever increasing amount of space devoted to the subject of blood and its considerations. Much information is made available pertaining to the importance of platelet counts, the several technics, and also to its consideration in clinical medicine. Clinical chemistry and the considerations of chemical examinations of body fluids is well presented, and will be of much interest to the clinician.

This is indeed a fine volume, and with the many fine illustrations, it should appeal to many of those interested in the various phases of medicine, whether it be the student, technician, teacher or the physician in practice.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

War Injuries of the Chest. Edited by H. Morrison Davies and Robert Coope. The Williams and Wilkins Company, Baltimore. Price $2.00.

The Principles and Practice of War Surgery. With Reference to the Biological Meth-

(Continued on page 40)

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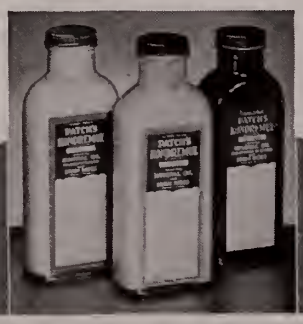
KONDREMUL Plain — for simple constipation

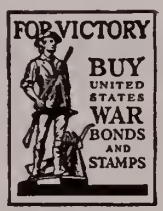
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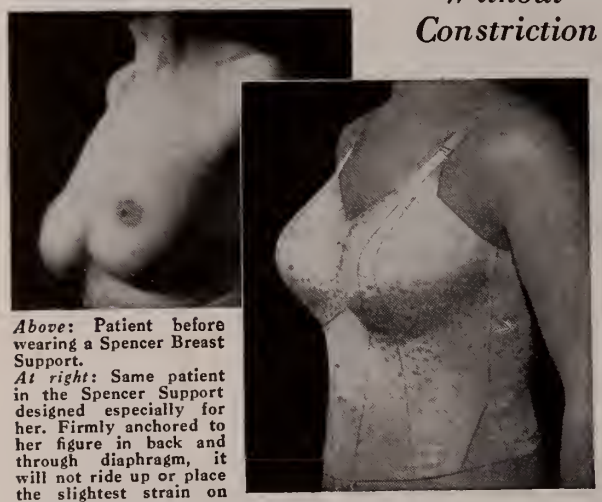
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BOOKS RECEIVED (Continued)

od of the Treatment of War Wounds and Fractures. By J. Trueta, M.D., Formerly Director of Surgery, General Hospital of Catalonia, University of Barcelona; Assistant Surgeon (E.M.S.) Wingfield-Morris Orthopaedic Hospital, Oxford; Acting Surgeon-in-Charge, Accident Service, Radcliffe Infirmary, Oxford. With Introduction by Owen H. Wangensteen, M.D., Minneapolis, Minn. With 144 text illustrations. The C. V. Mosby Company, St. Louis, 1943. Price $6.50.

Chemotherapy of Gonococcic Infections. fessor of Surgery (Urology) College of Medi- Russell D. Herrold, B.S., M.D., Associate Procine, University of Illinois, Chicago. The C. V. Mosby Company, St. Louis. Price $3.00.

Primer of Allergy. A Guidebook for Those who Must Find Their Way Through the Mazes of this Strange and Tantalizing State. By Warren T. Vaughan, M.D., Richmond, Virginia. With Illustrations by John P. Tillery. Second Edition. St. Louis. The C. V. Mosby Company. 1943. Price ???.

Synopsis of Diseases of the Skin. By Richard L. Sutton, M.D. Emeritus Professor of Dermatology, University of Kansas Medical School, and Richard L. Sutton, Jr., M.D., Assistant Professor of Dermatology, University of Kansas Medical School. With 413 Illustrations. St. Louis. The C. V. Mosby Company. 1942. Price $5.50.

Transurethral Prostatectomy. By Reed M. Nesbit, M.D., F.A.C.S. Associate Professor of Surgery, University of Michigan Medical School, in charge of the Section of Urology, Department of Surgery. With 94 Drawings Illustrating Technique by William P. Didusch. A Chapter on the Vascular Supply of the Prostate Gland by Rubin H. Flocks, M.D.. 1943. Charles C. Thomas, Publisher. Springfield, Illinois. Baltimore, Maryland. Price $7.50.

The Kenny Concept of Infantile Paralysis and its Treatment. By John F. Pohl, M.D., Clinical Assistant Professor of Orthopedic Surgery, University of Minnesota;

(Continued on page 42)



THE BURDEN OF *Reconstruction*

After the invading infection has been overcome and the temperature has returned to normal, the speed of further recovery depends largely on the patient's nutritional state. Thus adequate food intake is the primary requisite during convalescence.

The burden of reconstruction can be greatly eased and recovery hastened, when New Improved Ovaltine becomes a part of the dietary. This delicious food drink, with its wealth of proteins, minerals, vitamins, and readily available caloric energy, aids measurably in satisfying the increased metabolic demand for these nutritional essentials, and is always well tolerated.

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FAT	3.15 Gm.	31.5 Gm.	VITAMIN D	405 U.S.P.U.	432 U.S.P.U.
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PHOSPHORUS	0.25 Gm.	0.903 Gm.	RIBOFLAVIN	0.25 mg.	1.28 mg.
IRON	10.5 mg.	11.9 mg.	NIACIN	4.95 mg.	7.1 mg.

*Each serving made with 8 oz. milk; based on average reported values for milk.

BOOKS RECEIVED (Continued)

Attending Orthopedic Surgeon, Minneapolis General Hospital. In collaboration with Sister Elizabeth Kenny, Honorary Director of the Elizabeth Kenny Clinics, Australia; Honorary Director of the Elizabeth Kenny Institute, Minneapolis; Guest Instructor University of Minnesota Medical School. With a Foreword by Frank R. Ober, M.D., President, The American Orthopedic Association. Copyright, 1943. Bruce Publishing Company, Minneapolis, Saint Paul. Price $5.00.

Manual of Industrial Hygiene and Medical Service in War Industries. Issued under the Auspices of the Committee on Industrial Medicine of the Division of Medical Sciences of the National Research Council. Prepared by the Division of Industrial Hygiene, National Institute of Health, United States Public Health Service. A Composite Book with 16 contributors. Edited by William M. Gafafer, D.Sc. 508 pages with 20 illustrations. Philadelphia and London: W. B. Saunders Company, 1943. Price $3.00.

A History of Nursing by Deborah MacLurg Jensen, R.N., M.A., Lecturer in Nursing Education, Washington University, St. Louis; Instructor in Sociology and Social Problems at Schools of Nursing of St. Louis City Hospital and St. Luke's Hospital, St. Louis. The C. V. Mosby Company, 1943. Price $2.75.

Textbook of Anatomy and Physiology For Nurses. By Carl C. Francis, A.B., M.D., Senior Instructor in Anatomy, Department of Anatomy, Western Reserve University, Cleveland, Ohio; G. Clinton Knowlton, Ph.D., Assistant Professor of Physiology, College of Medicine, State University of Iowa; W. W. Tuttle, Ph.D., Professor of Physiology, College of Medicine, State University of Iowa. With 338 Test Illustrations and 39 Color Plates. St. Louis, The C. V. Mosby Company, 1943. Price $3.50.

The Medical Clinics of North America, March, 1943. Symposium on Nutrition. Philadelphia and London. W. B. Saunders Company.

SAY RED ARMY HAS QUICK WAY OF ADAPTING EYES TO DARKNESS

Soviet Scientists Report In War Medicine A Method Infallibly Securing Maximum Night Vision In Five Or Six Minutes

Soviet physiologists now possess methods which infallibly secure maximum adaptation of the human eye to darkness within five or six minutes after passing from light to darkness, Krikor Kekcheyev, Nikolai Derzhavin and Sergei Pilipchuk of Moscow, Union of Soviet Socialist Republics, declare in the current issue of *War Medicine,* published by the American Medical Association, Chicago, in cooperation with the Division of Medical Sciences of the National Research Council, Washington, D. C.

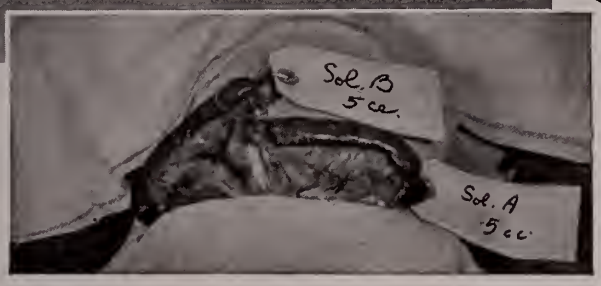
In their article, which was cabled to *War Medicine,* the three scientists say that "An important problem in war is that of expediting the period of adaptation of the eye in passing from light to darkness. Until recently only one method of shortening this period was known: If before passing into darkness a person was kept in weak, instead of bright light, it was possible to reduce the period of adaptation from forty-five or fifty minutes to twenty-five or thirty minutes. Soviet physiologists now possess methods which infallibly secure maximum sensitivity not within half an hour but within five or six minutes after passage from light to darkness. It is interesting to note that this is achieved not by pharmaceutic preparations but merely by applying a principle drawn from science of the interaction of afferent (from the outside to the center) systems of the organism."

Although the method is not described by the three authors, apparently it includes weak excitations of the organs of sense of hearing, taste or smell which, they say, thereby increases the sensitivity of other sense organs, such as the eye. They say it also has been found that the stomach, intestine and bladder should not be too full if good night vision is to be obtained and that it has been demonstrated that changes in the sensitivity of night vision could be obtained by conditioned reflexes (subconscious habits).

(Continued on page 44)

HOW SAL HEPATICA INCREASES LIQUID BULK





THE REPUTATION of Sal Hepatica as a mild yet thoroughly effective intestinal cleanser seems to grow brighter with passing time. It has long been known that Sal Hepatica flushes the intestines and initiates peristalsis through creation of temporarily unabsorbable *liquid bulk* in the bowel. New laboratory studies simply corroborate the literature on the "mechanism" of the action of Sal Hepatica salines. For example:

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Sal Hepatica aids in relief of certain types of gastric distress; it exerts helpful choleretic properties to promote the flow of bile. Sal Hepatica makes a bubbling, pleasant drink. Literature on request.

Graduate on left contains 5 cc. of Sal Hepatica solution as placed in ileal loop of dog. Graduate on right shows 6.7 cc. obtained after loop remained in peritoneal cavity for one hour. Inset depicts distended loops of dog's intestine filled with liquid bulk.

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ADAPTING EYES (Continued)

Discussing the problem of night vision, the three scientists say that "The present war has revealed the immense and formerly inadequately appreciated importance of night battle and reconnaissance operations and hence the equal importance of night vision. Soviet physiologists and Army physicians naturally ask themselves what they could do to assist the Red Army and Navy in this field.

"This is not the first time that Soviet physiologists have devoted their attention to the problem of night vision. In particular, various aspects of the physiology of sight and of hearing were investigated by the Army Medical Academy, in Leningrad, where the chair in physiology is held by Academician L. Orbeli, well known for his extensive researches on the sympathetic nervous system. . . .

"What aspects of the physiology of night vision interest military men first and foremost? One of them is the problem of increasing the sensitivity of the eye in the dark. In principle, increasing the sensitivity of night vision does not present any difficulty. In fact, Soviet physiologists in past years have published a number of works on the mechanism of changes in the sensitivity of human sense organs. It was found that excitation of any one sense organ by a customary and adequate stimulus immediately causes a change in the sensitivity of other sense organs, either heightening it or diminishing it. Academician L. Orbeli called this phenomenon interaction of afferent systems. It was soon established that weak excitations of the organs of sense of hearing, taste or smell enhance the sensitivity of other sense organs, including those of sight, whereas strong excitations have the opposite effect.

"The action of such stimuli on the thresholds of night vision proved to be prolonged, and it sometimes requires one and a half hours before the sensitivity of an eye adapted to darkness returns to normal. Further it was discovered that the sensitivity of night vision is one of the most fluctuating functions of the human organism, but that it is 'possible by selecting suitable stimuli for other sense organs sometimes to increase the sensitivity of an eye already adapted to darkness to maximum by another 40 to 50 per cent.' The importance of increased sensitivity of vision in night reconnaissance and battle operations scarcely requires stressing. It is a matter in which every sentry scout, every infantry, artillery or naval observer and every night pilot is interested.

"In the course of investigating this problem several highly interesting details were revealed. For example, in 1938 one of us (K. K.) published in the *Proceedings of the Academy of Sciences of the Union of Soviet Socialist Republics* researches showing that the sensitivity of the

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eye decreased with distention of visceral organs. It is now clear that the sensitivity of human sense organs is directly dependent on the state of fulness of the stomach, the intestine and the bladder. Hence, it is important in responsible reconnaissance operations that the visceral organs of the abdomen and the pelvis should not be overcongested. Other factors tending to diminish the sensitivity of the eye adapted to darkness (such as fatigue) were also ascertained and studied.

"In 1936 and 1937 there appeared almost simultaneously three reports on research . . . demonstrating that changes in the sensitivity of night vision could be obtained by conditioned reflexes. The weak and undifferentiable sound of a metronome or a tuning fork, it was found, may evoke great changes if it is combined several times with active factors, for example, with taste, cold or sound stimuli.

"What Academician Pavlov demonstrated for secretory reactions (salivary gland) can now be extended to the mechanism of change in the sensitivity of sense organs. This is explained by the fact that the change is produced by the sympathetic nervous system, as was first hypothesized by Orbeli. . . .

"We have here touched on only two of the problems of night vision which have faced Soviet scientists in this war and which have been solved, but new problems are continually arising. It should be mentioned — and this is a characteristic feature of science in the Soviet Union — that results which are achieved are never pigeonholed but at once are brought to the attention of Army surgeons, commanders and enlisted men."

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DESCRIBES TWO SIMPLE TESTS TO HELP DETECT MALINGERING

Cleveland Physician Tells How Tuning Fork And Machine Measuring Muscular Strength Can Help Check Sincerity of Symptoms

Two simple tests to help detect malingering when it involves muscular weakness or the complaint of pain are described in the current issue of *War Medicine* published monthly by the American Medical Association, Chicago, in cooperation with the Division of Medical Sciences of the National Research Council, Washington, D. C. J. L. Fetterman, M.D., Cleveland, tells how valuable information regarding the sincerity of symptoms can be obtained by means of a dynamometer test or a "tuning fork pressure test." He says:

"In war medicine and in medicolegal practice the relation of patient to physician sometimes brings up the question of sincerity of symptoms. Under such circumstances new motives are interposed between patient and physician. The patient may ask for relief, yet he may be interested in compensation or in escape from duty. To evaluate the genuineness of symptoms is a difficult challenge. In some instances only a searching study will determine whether a person is malingering. . . .

"The dynamometer is a useful instrument by which to measure and record numerically the muscular strength of the hand and arm. It is useful in determining the strength of a series of muscle contractions as a test for myasthenia gravis (muscular weakness). It may be of practical value in checking the return of strength in a partially paralyzed arm or hand.

"In addition, the dynamometer can be utilized as an aid in checking the mental attitude which motivates muscular exertion. Muscles are the messengers of the mind. The contraction of the hand then is not solely the result of the local muscular action but is determined by the zeal of the person making the contraction. Thus, a patient may go through the gestures of a firm contraction, but because of counterpull, the re-



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sultant force applied in an effort may be minimal.

"Not infrequently persons who have sustained some injury complain of extreme weakness of an arm or a leg. Is this weakness hysterical; is it an expression of malingering, or is it due to an organic process? The answer can be given as a result of a thorough history (of the case), the general attitude of the patient and various contradictions between the physical findings and the history. There is no simple, conclusive short cut to a sound interpretation. Yet it may be important during an examination for a draft board or in a medicolegal case to have a technic by which to gain an impression as to the deceitfulness or the sincerity of the person who is being examined. The dynamometer test has proved to be such an aid. . . .

"The patient is asked to compress this instrument as firmly as possible. With the particular dynamometer which I have, the strength registered by an office worker will approximate 100 to 150 kilograms and a powerfully muscled laborer will contract the spring so that the reading will be 200 kilograms or over. As a rule, the right hand will register some 20 to 40 kilograms more than the left one. Obviously, the registration on the dynamometer corresponds to the size, tone and general strength of a person's muscles.

"If then one examines a person who claims that his arm is weak and one finds excellent muscle tone with normal reflexes, one should expect a reading between 150 and 200 kilograms. It the patient contracts the instrument and the reading is 20 kilograms or less, one is dealing with either a hysterical paralysis or a conscious, deceitful effort to hold back the bending of the instrument. I have seen a person struggle with the machine, contracting muscles and bending every force to the point of fatigue, and yet the instrument registers zero. This means that the flexors and the extensors (muscles which bend and extend an extremity) are being simultaneously contracted, so that the force exerted on the instrument is zero. If this person is then

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MALINGERING (Continued)

instructed to grasp the instrument quickly but not forcibly, the examiner may be surprised to see a reading of 150 kilograms or more. Such a response definitely establishes a conscious effort to exaggerate weakness. If a person about whose sincerity one is in doubt grasps the instrument and the figure is compatible with his muscle size, one may interpret the response as representing a true and sincere effort. . . . "

As for the "tuning fork pressure test" as an aid in interpreting a complaint of local pain, Dr. Fetterman says that "Ordinarily, a routine examination enables one to differentiate the origin and nature of a complaint of pain. It is usually possible to determine whether the pain arises from a local process, is produced by a lesion of the nervous system or is a reflection of a psychic attitude. Yet, in some instances, the evaluation of such a complaint proves to be a diagnostic challenge. Problems in which there may be some purposeful motive behind the complaint are not uncommon in medicolegal practice or in war medicine. In such problems the distinction between a local process, a psychalgia or a consciously exaggerated statement of pain becomes a riddle for a diagnostic Solomon. . . . "

He describes the tuning fork pressure test as follows: The tuning fork is set in motion and applied over various uninjured regions of the body as a test of sensation. It is placed firmly over the shins and wrists, for example, and the patient asked to state whether he feels the vibration. At certain times the tuning fork is set in vibration, but the vibration is stopped before the base of the fork is applied firmly over the same neutral regions of the body. During this "training period" the patient answers readily and becomes interested in whether the tuning fork is vibrating. He replies, "It is going" or "It has stopped." When the examining physician feels that cooperation has been gained, the tuning fork is then casually applied with the same pressure over the region where the patient has complained of pain. If there is a local lesion, such as a fracture, the immediate reaction to the pressure of the tuning fork is one of pain. Whether the tuning fork is vibrating or still, the patient will mention or protest against this pain. But, if the examiner presses firmly with

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the vibrating tuning fork over an area which was previously alleged to be the site of pain and the patient now states, "I don't feel the vibration," one must interpret the complaint of pain differently.

"A patient whose pain is due to a local lesion. Dr. Fetterman explains, "obviously would suffer an increase of pain on pressure of the tuning fork. When the previously tender spot is not sensitive to the tuning fork one is compelled to suspect a psychic factor in the complaint of pain. . . . "

JOURNAL SAYS PHYSICIANS MUST VOLUNTEER FROM LARGER CITIES

Declares That Young Available Doctors Who Fail To Do So Should Be Brought Before The Bar Of Public Opinion

Young available physicians in the large cities of the country, particularly in those of the eastern seaboard, whose failure to volunteer has caused a lag in the procurement of medical officers for the armed forces, should be called before the bar of public opinion, *The Journal of the American Medical Association* for March 27 declares in an editorial. *The Journal* says:

"At a recent meeting in Washington of the Directing Board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians with the Officer Procurement Service of the United States Army and with representatives of other governmental agencies, evidence was clearly set forth that the procurement of medical officers for the armed forces is lagging. The responsibility rests unquestionably on the failure of young available physicians in the large cities of the country, particularly those of the eastern seaboard, to volunteer. Officers of the medical societies of New York, Massachusetts and Connecticut were present and the situation was placed before them. The rural areas of the United States have contributed doctors not only up to such quotas as were assigned to them but in many instances well beyond these quotas; it is simply impossible to anticipate that they will make a further contribution at this time. In the meantime, New York, Brooklyn, Boston and some of the larger communities in

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VOLUNTEERS (Continued)

the states of Connecticut, New Jersey, Pennsylvania and California have failed even to approximate their quotas.

"The needs of the armed forces for physicians during 1943 are well defined. The number of physicians to be expected from recent graduates, interns and those now holding residencies has been determined. Beyond this number at least six thousand more physicians must come from the civilian population. The Procurement and Assignment Service for Physicians, Dentists and Veterinarians has devised a technic which involves, first, a determination of the availability of the physician concerned or his essentiality for any civilian position which he occupies; second, notification of the physician of his availability and a request that he appear before his local procurement board; third, a notification of the Selective Service Board of the fact that the physician concerned is considered available and that he has failed to volunteer. Thus far pressure beyond this has not been exercised. There remains, however, the mobilization of the pressure of public opinion.

"In some instances physicians have declared flatly to representatives of the Procurement and Assignment Service and the Officer Procurement Service that they do not wish to volunteer and that they will not volunteer. When it is known to other physicians in the community that a physician under 38 years of age, declared available by the Procurement and Assignment Service, refuses to volunteer in this time of the nation's need, when many an older physician, frequently with innumerable obligations, has given up his home, his practice and the responsibilities of years to participate in this war, the public has a right to know that the younger physician is not willing to do his part. Certainly the Procurement and Assignment Service should consider the possibility at this advanced stage of the war effort of making public through the state medical journals not only the names of those who are already participating in the war but also the names of those who have been

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declared available and have not themselves ever indicated a willingness to participate. Let them be called before the bar of public opinion!"

UTILIZING EVERY AVAILABLE MAN-HOUR OF MEDICAL PERSONNEL

An example of how every available man-hour of medical personnel is being utilized to meet the medical problems resulting from the war is contained in an announcement by the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, of the War Manpower Commission, on the utilization of overlapping internships, published in *The Journal of the American Medical Association* for March 27. The announcement says:

The directing board of the Procurement and Assignment Service has informed its state chairmen that consideration should be given to overlapping internships resulting from the nine months school year and has suggested that state chairmen should serve as a clearing house between hospitals with such overlapping internships and institutions requiring additional personnel.

Nearly all medical schools now have a graduating class each nine months. A full year internship now is required by Army and Navy regulations, by many state boards and, in some instances, by medical schools. In March and April new groups of interns are entering hospitals for their internships with interns from last year still having three or more months left to complete their required service.

It is the consensus of organizations concerned, sitting with representatives of the three surgeon generals and of Selective Service, that there would be no objection to utilizing these overlapping internships elsewhere, such as in approved hospitals without adequate personnel, if the hospital in which the first part of the internship was served will certify to a full year's service. This opinion was concurred in by representatives of the Council on Medical Education and Hospitals of the American Medical Association, the Advisory Board for Medical Specialties, the Federation of State Medical Boards, the American Hospital Association, the American College of Surgeons, the Protestant Hospital Association, the Catholic Hospital Association and the Association of American Medical Colleges.

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A PATIENT ENTERED A HOSPITAL EVERY 2.5 SECONDS DURING 1942

Annual Survey By A.M.A. Council Shows That 9.5 Per Cent Of Entire Population Became Bed Patients Last Year

During the year 1942 one person entered a hospital in the United States as a patient every 2.5 seconds, according to the twenty-second annual census of hospitals by the Council on Medical Education and Hospitals of the American Medical Association, published in the March 27 issue of *The Journal* of the Association.

Nearly one tenth (9.5 per cent) of the entire population, on the basis of the 1940 census, became a hospital bed patient in 1942. During that year surgical operations were at the rate of one to each 5.6 seconds and the hospital birth rate exceeded three live babies to the minute.

A total of 6,345 registered hospitals, sanatoriums and related institutions located in the United States and 128 in Alaska, the Canal Zone, Hawaii, Puerto Rico and the Virgin Islands are listed in the census. This is a decrease of 13 in the number of hospitals on the register one year ago.

The report points out that "it is well to distinguish between registration and approval of hospitals. Registration means the inclusion of a hospital in the list maintained by the Council on Medical Education and Hospitals and published in the Hospital Number of *The Journal* and in the American Medical Directory. . . . Approval means specific endorsement of hospitals for educational purposes, the fitness for which is determined by observation, inspection and comparison with definite requirements for the training of interns and residents.

"Registration is a basic recognition, extended to the hospitals and related institutions concerning which the Council has no evidence of irregular or unsafe practices. Approval is designation of certain registered institutions by the Council for internships, residencies and fellowships."

The capacity of registered hospitals, the report points out, is 1,383,827 beds and 71,448 bassinets. There are 59,446 more beds and 5,285 more bassinets than one year ago. This growth in hospital facilities for the past year was the equivalent of a 163 bed hospital for every day in the year.

It was found that 610 hospitals have blood banks, 1,741 have plasma banks, 546 have both, while 2,457 have such facilities readily available but not in the hospital.

The total number of patients admitted during the year 1942 was 12,545,610, an increase of 949,422, or 8.2 per cent, over the previous year.

The total of hospital patients operated on

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HOSPITAL RECORDS (Continued)

during the year was 5,607,879, or 44.7 per cent of all who were admitted for bed care.

The percentage of occupancy in all hospitals has decreased steadily during the past three years, the figure being 83.7 in 1940 as compared with 81.4 in 1942. However, nongovermental hospitals increased in occupancy during that three year period from 68.5 per cent to 72.7 per cent, the increase being found in all groups of nongovernmental hospitals, including church related, nonprofit associations and proprietary institutions. In governmental hospitals the rate of occupancy declined from 89.8 per cent in 1940 to 84.5 per cent in 1942 and during that same period federal hospital occupancy declined from 79.5 per cent to 66.6 per cent.

The trend has been upward in the occupancy rate of maternity hospitals and downward in children's, orthopedic and isolation hospitals, whereas there has been little trend either way in other classifications as to types of service.

The total births in hospitals for 1942 was 1,670,599. This represents an increase of 265,659 over the 1,404,940 in 1941. Figures reported for births by hospitals refer to the number of live babies born. The hospital births in 1942 were nearly two and one-half times those of 1929. More than 97 per cent of the births reported in 1942 were in general hospitals; 85 per cent, or a total of 1,420,079, were in nongovernmental hospitals, and the remaining 15 per cent or 250,520 were in governmental hospitals. The average number of babies accommodated per bassinet during 1942 was 23.3, compared with 21.2 for 1941, 19.6 for 1940 and 12.9 for 1929, showing increasing utilization from year to year of the existing supply of bassinets.

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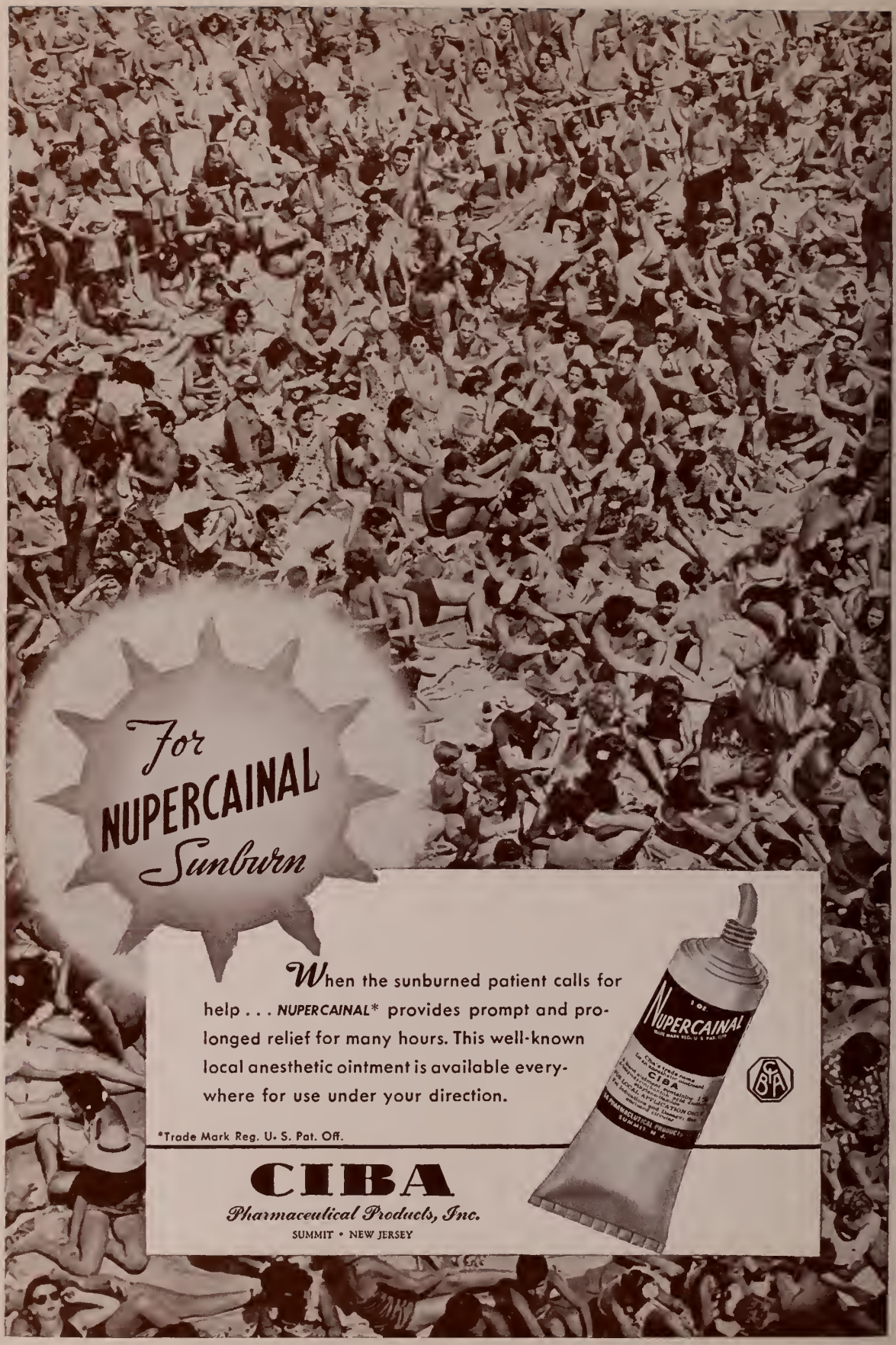
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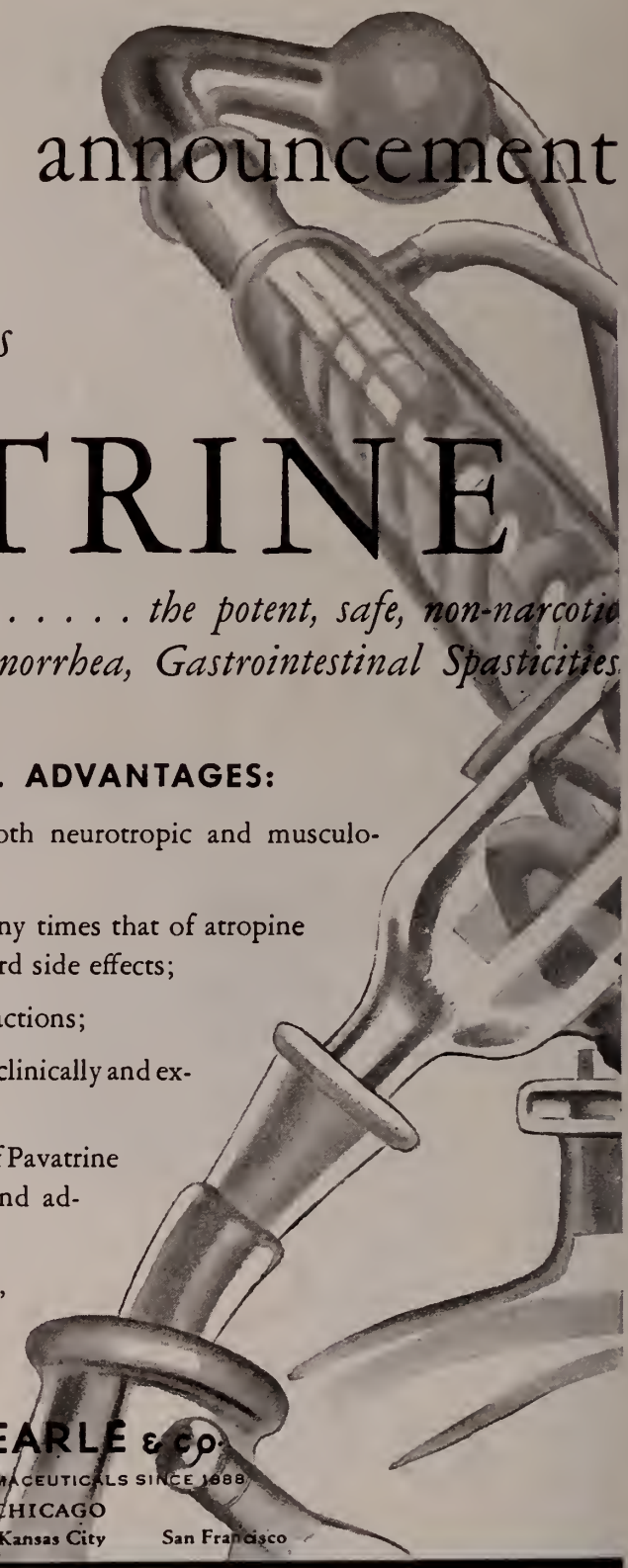
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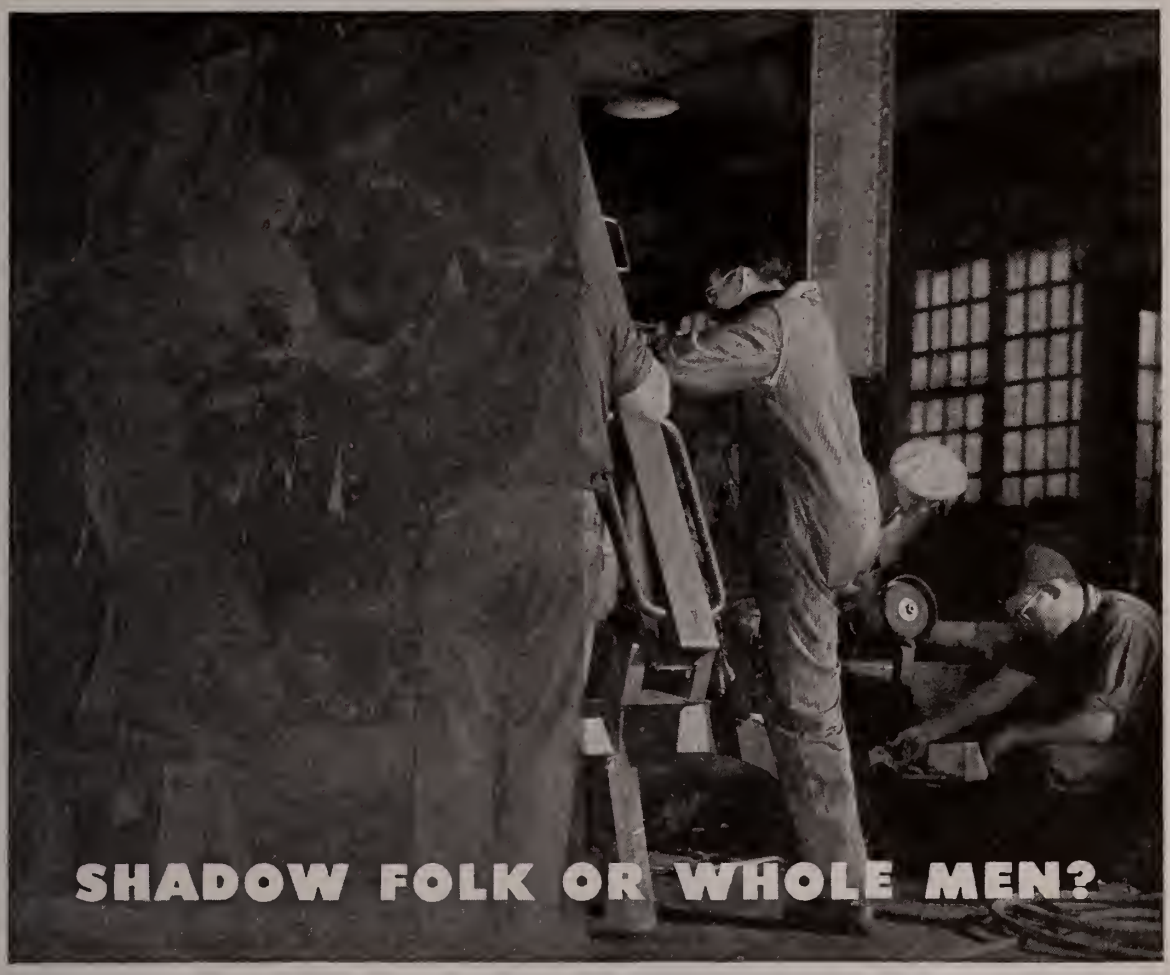
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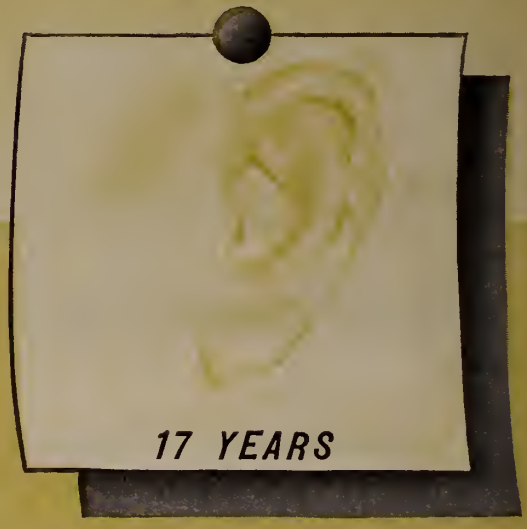
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LEVINTHAL, D.H. and LOGAN, C.E.: The Orthopedic and Medical Management of Arthritis, Journal-Lancet, 63:48-50 (February) 1943.

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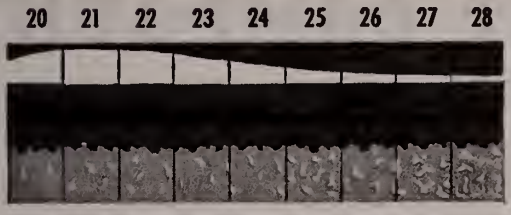
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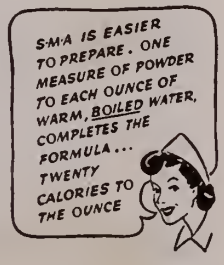
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†COLLINS, E. N.; PRITCHETT, C. P., and ROSSMILLER, H. R.: The Use of Aluminum Hydroxide in the Treatment of Peptic Ulcer, J. A. M. A. **116**: 109-113 (Jan. 11) 1941.
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Abramowitz, E. W.: Indus. Med., 10:481-486 (Nov.) 1941

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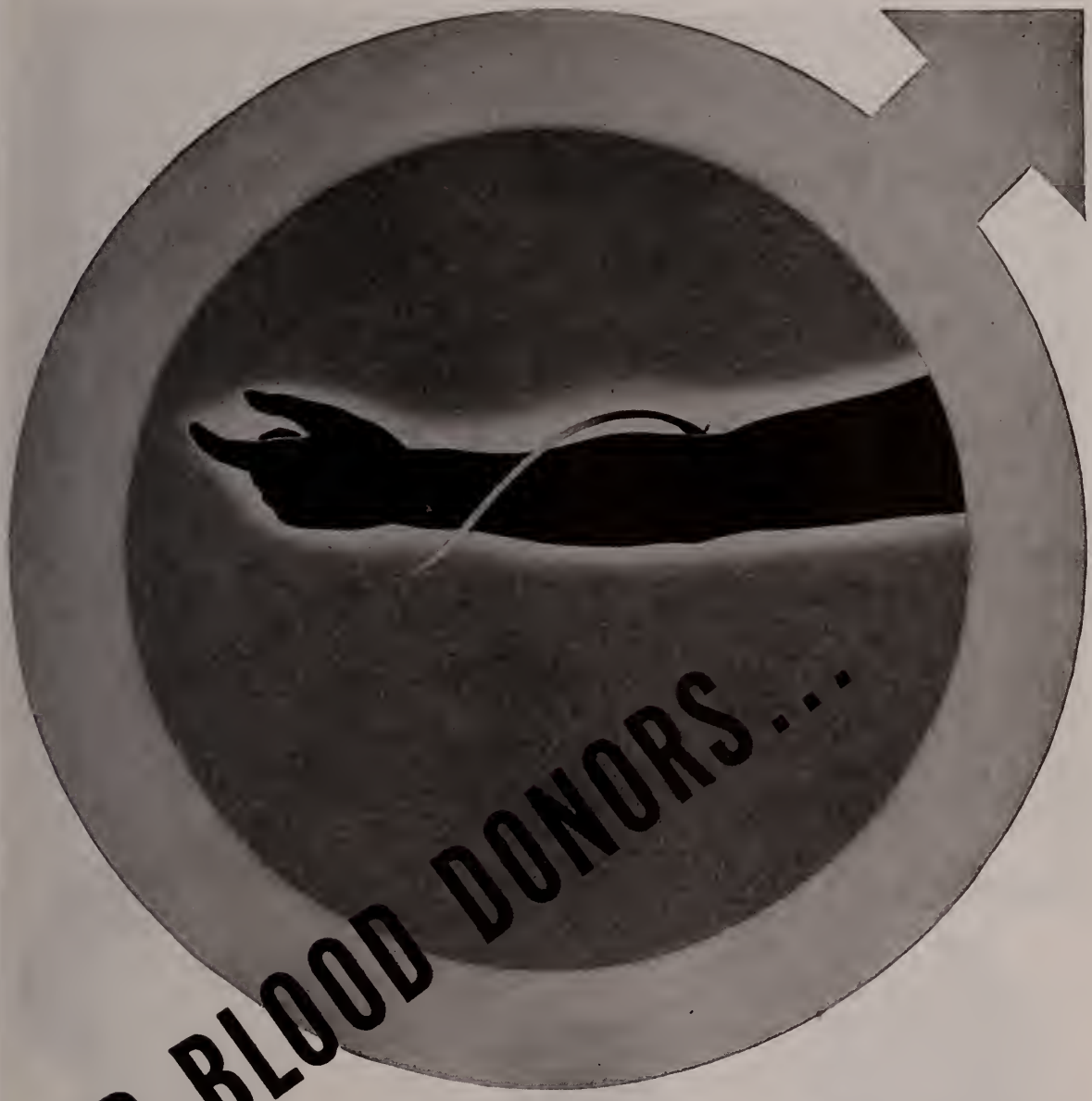
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† Fowlet and Barer: "Rate of Hemoglobin Regeneration in Blood Donors." J.A.M.A., 118:421;1942.
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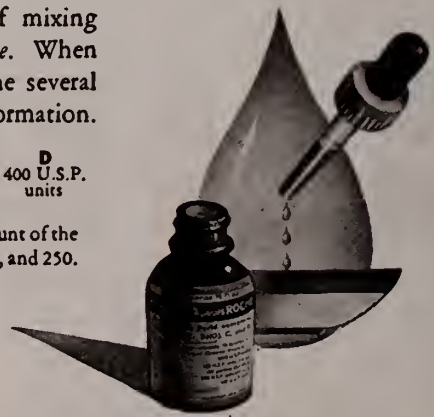
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The Illinois Medical Journal

June, 1943

VOL. 83, NO. 6

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver.

Editorials

IT WAS A GOOD MEETING!

The 103rd Annual Meeting of the Illinois State Medical Society will long be remembered as a highly successful and well worth while meeting. The attendance was excellent when it is recalled that Illinois has more than three thousand of its younger physicians in military service, and very few of the younger physicians were at the meeting.

The programs had been well arranged and subjects selected were those of special interest to the average physician remaining in civilian practice. It was quite interesting to note that physicians were present from nearly every county in Illinois, and many of the far distant counties were well represented indeed. The meetings were all held in the Palmer House, and with the inclement weather outside throughout the entire session, this arrangement was most satisfactory.

The large exhibit hall was completely filled with excellent technical and scientific exhibits, all of which had been selected carefully. Scientific exhibits featuring various phases of medicine and the war were of unusual interest. The attendance at the exhibit section was most gratifying to the exhibitors.

The Chairman of the Committee on Arrangements and his many committees had worked hard to get everything arranged to the best advantage, and they had left nothing undone which could possibly be done to add to the success of the meeting. The attendance at every session and at the several special meetings was most gratifying.

The President's Dinner on Wednesday evening had the largest attendance in the history of this important function which has been conducted annually for many years. The large Grand Ballroom of the Palmer House was filled to the limit, and many desiring to attend the dinner were unable to do so on account of lack of space, and also because of the present food rationing program which made it almost impossible to plan for more than a guaranteed maximum. Places were set for nearly 900, and many more desired admission but had to be turned down through no fault of the Committee responsible for the arrangements.

Edward H. Weld, the President of the Society, was presented with the President's Certificate by Edwin S. Hamilton, Chairman of the Council. Owing to the fact that the annual meeting of the State Medical Society came at a time near the regular annual meeting of the Chicago Medical Society, the President of the C. M. S. was presented with a fine watch by his society. The presentation was made by R. R. Ferguson to Lt. Comdr. H. Prather Saunders who has been in service during the past year, and only arrived in Chicago on leave in time for the presentation.

As an added and unusual feature, Colonel Carlos P. Romulo, known far and wide as "the last man off Bataan," gave a most inspiring and unforgettable address on the subject, "They Told Me To Tell You." For nearly two hours

he held his large audience of some 1600 people, and was given the greatest ovation ever accorded a speaker at an annual meeting. Colonel Romulo born and reared in the Philippines, educated there and also in the United States, fought side by side with General Douglas Mac Arthur as his aide-de-camp and friend.

This was his 202nd speech since last September, and everyone who heard him relate in his characteristic manner, the thrilling experiences he has had since the outbreak of war, will never forget his story. He has toured all the far eastern countries, and is thoroughly conversant with the many problems they have encountered.

The Oration in Medicine was delivered by James E. Paullin, President-Elect of the American Medical Association, and a member of the Directing Board of the Procurement and Assignment Service. His subject was "The Contribution of the Medical Profession toward Winning the War" and it was most interesting to the hundreds in the audience.

The Oration in Surgery was delivered by Willis D. Gatch, Dean and Professor of Surgery, University of Indiana School of Medicine, his subject being, "Injuries Done the Peripheral Circulation by Heat, Trauma, Infections and other Agencies. The Definition of Shock." A large attendance was had for this address and it was most interesting to all present.

Hundreds of men in uniform were present at the meeting, the Army and the Navy being equally well represented. Likewise a number of officers with the United States Public Health Service, and a number of medical women commissioned as medical officers, and also commissioned nurses, were at the meeting.

The two meetings of the House of Delegates were conducted by President Weld in an excellent manner. Although much business was transacted at these sessions, through the use of reference committees, their meetings and reports at the second meeting of the House, added materially to the utilization of all available time in

ILLINOIS STATE MEDICAL SOCIETY

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George W. Post, M.D.

President, Illinois State Medical Society
1943-1944

a constructive manner. The transactions of the House of Delegates will be published in the July number of the Illinois Medical Journal.

The location and the arrangements for our 1944 annual meeting were left entirely to the Council, and a report will be given through the Illinois Medical Journal in an early issue.

The total registration was approximately 27-00, and of this number there were approximately 2250 members of the medical profession in attendance.

At the opening meeting the address of welcome was given by the Honorable Edward J. Kelly, Mayor of Chicago, who paid a most complimentary tribute to the physicians and their work in time of war. Mayor Kelly was given a fine ovation by the large audience.

Everyone present was unanimous in the opinion that the 1943 annual meeting was indeed a fine one.

REPORT OF COMMITTEE ON AWARDS

The Committee on Awards of the Scientific Exhibits Committee had more than the usual amount of difficulty this year in determining those exhibits which were entitled to the prizes allotted by the Illinois State Medical Society each year for outstanding exhibits in the two classes.

After a most careful inspection of all exhibits, this committee submitted their report which was presented at the closing session of the House of Delegates. In submitting this report, the committee stated that there were many exhibits of unusual merit, and although it was not possible to award medals or certificates of merit to all of the exhibitors, they highly commend the exhibits as a whole.

Their report is as follows:

Group 1: *Scientific*: The bronze medal was awarded to Edith L. Potter and F. L. Adair, Chicago Lying-In Hospital and the Illinois Department of Public Health, Chicago, for their exhibit on "Erythroblastosis Fetalis."

Certificates of Merit were awarded to the following:

1. The Women's Field Army of the American Society for the Control of Cancer, for the exhibit, "The Value of Mice in Cancer Research."
2. E. W. Hagens, Department of Otolaryngology, Northwestern University Medical School, Chicago, for the exhibit, "Anatomical Presentation of Bronchial Tree from Endoscopic Standpoint."
3. V. D. Lespinasse and Victoire Lespinasse, Department of Urology, Northwestern University Medical School, Chicago, for the exhibit, "Studies on Kidney Function; Extravasation of Urine; Bladder Regeneration."
4. I. Schour, D.D.S., and H. G. Sarnat, D.D.S., University of Illinois, Chicago, for the exhibit, "Oral Manifestations of Occupational Origin."

Group 11. *Practical and Educational*: The bronze medal was awarded to George B. Callahan, Waukegan, for the exhibit, "Unifying Medical Services in Lake County." — A Plan and Practice Using Navy, Army, Veterans' Administration, Industrial and Civilian Medical Personnel and Material."

Certificates of Merit were awarded to the following:

1. G. Henry Mundt, Chicago, for the exhibit on "Epidemic Kerato-Conjunctivitis."
2. F. H. Falls and Miss C. S. Holt, University of Illinois College of Medicine and the Illinois Department of Public Health, Chicago, for the exhibit on "Hemorrhage."
3. Harold A. Vonachen, Peoria, for the exhibit, "Caterpillar Tractor Company Health Program During Time of War."
4. K. E. Barber, Children's Memorial Hospital, Chicago, for the exhibit, "Pyelography in Retroperitoneal Tumors in Children."

STARTING THE SECOND QUARTER CENTURY!

John S. Nagel, for 25 years continuously a member of the Council of the Illinois State Medical Society, was elected at the recent annual meeting for another three year term. Dr. Nagel, the oldest member of the Council in years of service, has devoted much time to the important duties which have been assigned to him. Those who have known "Jack" and have been familiar with his untiring efforts in the interests of the medical profession as a whole, and especially for the Illinois State Medical Society,

well realize that he has trained many members of the Council during the past quarter century. His many trainees do not hesitate to tell how much they have gained through associations with him over a period of time.

Dr. Nagel for many years recommended that some plan be developed to care for members of this Society who are disabled and who need aid in their declining years. Three years ago his untiring efforts were rewarded by the adoption of changes in the By-Laws of our Society to provide for a Committee on Medical Benevolence. As was most fitting, he was elected as Chairman of this committee. The annual report of the Committee was given to the House of Delegates on Tuesday, May 18th, by Dr. Nagel, and it will be of interest to the many members of the Illinois State Medical Society. Many benefits have been paid during the past year to disabled physicians and to widows of former members. Many letters have been received by the Committee relating to this deserved aid, and thanking the Committee and the Society as a whole for benefits which have been received.

The thousands of friends of Dr. Nagel in the Illinois State Medical Society join with the editor in thanking him for the 25 years of work he has done; for his guidance of those yet inexperienced, and for the many things he has done for others. We all unite in wishing him an easier task for his second quarter century, and we sincerely hope that he will continue these activities for many years to come.

YOUR OFFICERS FOR 1943-1944

At the second meeting of the House of Delegates at the annual meeting in Chicago the following officers, Councilors and Standing Committees were elected:

OFFICERS

President Elect E. P. Coleman, Canton
First Vice President Robert S. Berghoff, Chicago
Second Vice President .. Wade C. Harker, Chicago
Secretary-Treasurer .. Harold M. Camp, Monmouth

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.... E. W. Mueller, Chicago (to succeed L. E. Day)
Fourth District Charles P. Blair, Monmouth
Fifth District Ralph P. Pears, Normal
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Medical Legislation Committee
James H. Hutton Chicago
Robert H. Hayes Chicago
Hermon H. Cole Springfield
Medico-Legal Committee
(Two members elected each year for three years)
R. O. Hawthorne Kankakee
Pliny R. Blodgett Chicago Heights
Medical Education and Hospitals
(One member elected each year for three years)
H. O. Munson Rushville
Medical Benevolence
Charles H. Hulick Shelbyville
Harold M. Camp Monmouth

At the close of the meeting of the House of Delegates on Thursday morning, George W. Post was inducted into the office of President by the retiring President, Edward H. Weld. Dr. Weld in this ceremony, paid a tribute to his successor, whom he stated, is well qualified for this important office.

Dr. Weld was given a fine tribute by the House of Delegates for his continued interest in the welfare of this Society, as well as the medical profession in general, and for the many duties which have been well performed by Dr. Weld during his tenure of office.

LIFE AND ITS EPOCHS

It has occurred to you of course that we human beings enter this world toothless, hairless and brainless and leave it in much the same fashion provided we overrun our full cycle.

Did you ever stop to consider, however, that life — complex as it seems — divides itself rather nicely and simply into three Epochs or Cycles? And even if that thought did occur to

you, have you ever sat back comfortably in your chair, closed your eyes and musingly assayed the assets and liabilities of these three brief, fleeting episodes of your existence, one against the other? Why not do it now while I recant them for you!

Youth, the First Cycle, from birth to twenty-five, is the period of growth, of energy, of physical and mental expansion. It symbolizes spontaneous initiative, but lacking both experience and mature deliberation, is suggestive of unbridled arrogance, and its end result with some exceptions is unpredictable, a maudlin mixture of success and failure.

The Second Epoch or Cycle from twenty-five to fifty years represents Maturity — Man's Prime. Physical endurance has reached its peak and mental acuity has sharpened to razor's edge. With the failures and experiences of youth as a background, judgment broadened, and the intangible reminders of the approaching "stretch" prodding a fired ambition, this is indeed the fruitful period of life. Man now works and slaves and, ignoring the distractions of youth, he builds as strenuously as the coral insect and like it he will shortly disappear, content if he has left some minute constructive atom in this vast enigmatic world.

Senility, the Third and last Cycle of man, pitied by Youth, ruthlessly shoved aside by Maturity, blends in unheralded to close man's book of life. What does Senility hold for you and me, Mr. Average Man? Is it merely the culmination of Adolescence and Maturity, or a preparatory exitus, or a vegetative shading off into the unknown? Ah, no, my friends!

Senility begins with a carry-over of the two Cycles irretrievably gone! Youth. virility, ambition, energy, and most important, all these bolstered and fortified with perspicuity and ripe judgment, with discernment and tolerance, all resulting in keen analysis and complete self enjoyment. Add to all this the spice of Calm, of a kaleidoscopic mental review of a long life well spent, and you have the tasty dish of life in its complete fruition.

Thus we have the picture of man from the Cradle to the Grave. Add to it if you will Religion and belief in a God and a Hereafter, and then visualize your ship sailing calmly and peacefully into the Harbor of Eternity.

Robert S. Berghoff

PEDIATRIC ANTIQUES ON TOUR

It has been well said that more progress has been made in pediatrics during the past three or four decades than in all the time before that.

As applied to the feeding part of pediatrics, the Mead Johnson Collection of Pediatric Antiques bears eloquent witness to the great strides made. Without such evidence, it would be difficult, indeed, to imagine our own grandparents being fed from some of these odd-shaped utensils that defied thorough cleansing. To be sure, sterilization and pasteurization were not then in vogue. Not all babies received breast milk in abundance. In the days when wet nurses were common, some of these enterprising women literally did a wholesale business, managing to nurse three or four infants.

The baby's cereal of a century ago was simply stale bread lightly boiled in water, wine or beer. Butter or sugar might be added but the use of milk was regarded as fraught with danger. It was thought, according to Dr. T. G. H. Drake, "Milk might bring on the watery gripes, or the infant might imbibe with the milk the evil passions and frisky habits of the animal supplying the milk."

From a personal hobby enjoyed by the late E. Mead Johnson, Jr., the Collection of Pediatric Antiques, illustrated in the pages of a catalogue just issued, has evolved into one of considerable historical importance, depicting as it does the progression of infants' feeding vessels from the Greece of twenty-five centuries ago down to time within our own memory.

The Collection has been steadily growing in size and scope is of increasing interest for teaching purposes via the historical route. The destruction of original sources caused by the war tends to add to the value of these objects.

Hence it is that, by request, the Collection now goes on an annual pilgrimage to colleges, hospitals, museums, libraries and other institutions of learning. Arrangements may be made for "stop-overs" upon application to the curator. Mead Johnson & Company, Evansville, Indiana, U. S. A.

"I am going to see the doctor about my wife. I don't like the way she looks."

"I'll go along with you. I don't like the looks of mine either."

Correspondence

OFFICE OF EMERGENCY MANAGEMENT
WAR MANPOWER COMMISSION
Washington, D. C.

May 6, 1943

Dr. Harold M. Camp
Editor, Illinois Medical Journal

Dear Doctor Camp:

Attached are statements pertaining to the procurement of physicians to meet the nation's military and civilian needs, prepared by the surgeons general of the Army, Navy and the U. S. Public Health Service, and the chairman of the Directing Board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians.

The failure of some areas in the country to provide their quota of physicians for the armed forces reflects unfortunately on all of American medicine. Is American medicine incapable of making the sacrifices required of it without compulsion?

We must face one inescapable fact. Our fighting men, and those who must remain behind, must and will have medical care. It will be obtained one way or another. The choice of methods is still in our hands. The medical profession of this country never has failed the nation; it must not do so now!

The Directing Board of Procurement and Assignment Service seeks your further aid in the recruiting task that is before us by requesting that you publish in the next issue of your journal the four statements that are attached. An editorial in the same issue calling attention to these statements and some of the considerations referred to in this communication, also would be most helpful.

The Directing Board is most grateful for the aid you already have extended them and for that which it knows you will continue to extend.

Very truly yours,
Frank H. Lahey, M.D.
Chairman, Directing Board

STATEMENT OF CHAIRMAN, DIRECTING BOARD PROCUREMENT AND ASSIGNMENT SERVICE FOR PHYSICIANS, DENTISTS AND VETERINARIANS

Figures are now complete on the 1942 quotas for supplying physicians of the various states. Forty States have exceeded the 100 percent figure of their quotas. Five States were above 90 percent of their quotas. Four States — New York, Connecticut, Massachusetts, and Nevada were below 90 percent of their quotas.

Nevada is the lowest State, but has a total quota of but 35 doctors. It has provided 23 and deserves special consideration because its population is thinly scattered over wide areas.

This statement would not imply any reflection on the patriotism of those members of the medical profession who have been marked available by the Procurement and Assignment Service in these three States and who have not sought a commission. I would only present the facts and let each one draw from these facts whatever deductions he individually chooses.

Certain unavoidable considerations must be faced in these figures. Four States failed to provide 90 percent of their 1942 quotas of doctors for the services. Three of these States — New York, Connecticut, and Massachusetts, are

Eastern Seaboard States and among the most populous ones in the Union. These populous States have large cities in them which now have more doctors per thousand persons than most other parts of the country. Largely because those doctors marked available by the Procurement and Assignment Service have not sought commissions these States are below their quotas.

Unless more of the doctors found available for military service by the Procurement and Assignment Service in these cities apply for a commission in the armed forces with reasonable promptness still more doctors must come from rural communities. This will greatly complicate the problem for those communities in their own and other States since many rural communities are already none too well supplied with doctors. Such inequalities in medical service as now exist are in which become practically insurmountable for the Procurement and Assignment Service with its present limited authority. With all these facts in mind, with the responsibility of medicine to the country and to itself such as it is, the quota figures particularly in New York, Connecticut, and Massachusetts should be brought up to par by an intensive effort of the State Medical societies through their executive bodies preferably by an organized Sate Medical society campaign.

The provision of doctors for the armed forces is not only the special obligation of medicine but a responsibility which it acknowledges and accepts as its part in the war effort. Each State that has not met its 1942 quota will be kept informed of its position in relation to its quota and its position in relation to other States. Otherwise, a State is denied the pardonable pride of satisfaction in meeting its quota or pampered against facing a distasteful position in relation to other States.

STATEMENT OF THE SURGEON GENERAL OF THE UNITED STATES ARMY

The Army is increasing in size; more medical officers are required. New units are being formed and many new general hospitals are under construction at many points in the United States. Some basic training must be given to medical officers before they are assigned to purely medico-military duties; for this reason, they are needed one or two months prior to actual assignment. For the protection of the health of the civilian population, the quotas for physicians must be fairly distributed throughout the country. Certain states are far behind; they will, it is hoped, do everything possible to furnish their quotas at once.

STATEMENT OF THE SURGEON GENERAL OF THE UNITED STATES NAVY

In order to plan intelligently I have reviewed the personnel situation in the Medical Department of the Navy. There is a deficit of approximately nine hundred medical officers for the next six months, based on minimal requirements. The Bureau of Medicine and Surgery calls medical officers to active duty when billets are available, does not build up too large a Reserve at any time. Consequently, procurement must go on in an orderly fashion, if we are to meet the demands that will be placed upon us as the offensive fighting develops. We can not afford to have the deficit increase beyond its present level; if it does we will not be able to give first-class medical service to our wounded.

The Medical Department of the Navy is charged with maintaining the health of all the personnel of the Navy and the Marine Corps; in addition it must care for the dependents of the officers and men. We look to the medical profession of our nation to come forward with the available doctors that can be spared from civil life to aid in our military necessity. In the main, the profession has responded nobly. There are some localities where this is not so. In those localities the medical profession should cause the pressure of public opinion to bear on all eligible doctors and thereby bring to their attention the seriousness of failing to do their patriotic duty.

The medical profession is faced with a challenge of furnishing medical service to the Armed Forces and to the civil population during the active state of war and in the post war period, which we hope is not too far distant. Should the profession fail in either regard many forces may develop that will destroy the practice of medicine as we know it. This would be disastrous and it is something that we can not

afford to allow to come about. In all seriousness, the doctors of medicine in the United States should take stock carefully of their own immediate situations and should give every assistance in planning to see that medicine plays its responsible part in this and coming years.

STATEMENT OF THE SURGEON GENERAL OF THE U. S. PUBLIC HEALTH SERVICE

During the next twelve months, the Public Health Service will require approximately 600 medical officers for full-time active duty in the reserve commissioned corps. These physicians will be recruited on an average of 50 a month — 25 for service in the U. S. Coast Guard, and 25 for general service.

In addition to the medical officers assigned to the Coast Guard, physicians are needed for duty in the Marine Hospitals and the medical program of the War Shipping Administration, as well as for detail to general public health work in State and local health departments, and for such specialized war programs of the Public Health Service as tuberculosis control, venereal disease control, industrial hygiene, and community medical services.

The Service also expects this year to commission some 5,000 physicians in the inactive reserve. These doctors will be available for active duty in the event of acute emergency in their own or nearby communities. They will not be called for active duty unless an acute emergency exists, and will be retained only for the duration of such an emergency. This recruitment of inactive officers is undertaken as a part of the cooperative program of the Public Health Service and the Office of Civilian Defense.

The needs of State and local health departments for physicians have increased greatly during the past year. In January 1942, it was estimated that State and local health departments would need 600 physicians. As of January 1943, the exact needs have not been determined, but the Public Health Service has, at the present time, requests from the States for 185 medical officers to be assigned to duty in war areas alone.

According to reports from State Procurement and Assignment chairmen, as of March 23, 1943, 268 additional doctors for civilian practice are needed in 176 counties located in 38 States. Another 22 counties in the same States report a shortage of physicians but do not specify the numbers needed. In the remaining 10 States, no needs were reported.

These 198 counties reporting immediate needs represent only 7 percent of the 2,654 counties in the 38 States, and only 6 percent of all counties in the country. Nevertheless, it is apparent that civilian communities are feeling the pinch of physician-shortage increasingly, since experience has shown that local needs become acute before they are expressed in formal reports. In the joint studies made in 42 areas by the Public Health Service and the Procurement and Assignment Service, it has been determined that 59 physicians and 5 dentists, or 64 medical and dental personnel, are needed in these areas — an average of 1.5 per study. The Public Health Service has been requested to supply 13 of these physicians and dentists, or 23 percent of the determined need.

On the basis of these 42 studies, it is estimated that 500 physicians and dentists will be needed in 332 areas to be surveyed in the next coming fourteen months, or by June 1, 1944. It is anticipated that 80 percent of these, or 400, will be supplied by voluntary relocation through the regular channels of Procurement and Assignment, and that the Public Health Service will be requested to assist in meeting the needs for the remaining 20 percent, or 100 physicians and dentists. This may be done either through financial assistance to physicians desiring to relocate in areas requiring their services, or through assignment of Public Health Service personnel upon request of the proper authorities.

Although it is impossible to project with accuracy the 1943 needs of civilian communities, we must face the fact that the shortage undoubtedly will increase during and after the filling of the 1943 military quotas; and that the chances of meeting civilian needs as well as replacing physicians who die or withdraw from practice because of disability, will correspondingly decrease. Furthermore, we cannot predict at this time the possible needs of certain rural areas, which now may be adequately supplied but which will require additional public health and

medical services during 1943, should the Government move a large number of farm families into these areas for the food production drive. It is believed that joint action of the Public Health Service and the Procurement and Assignment Service will serve to meet urgent needs in civilian communities.

COMMITTEE TO STUDY INVALIDS' FOOD NEEDS

A newly formed committee of physicians and specialists will assist in formulating broad policies for handling the special dietary needs of invalids and persons with specific diseases under the rationing program, the War Food Administration announces.

The advisory committee was named by the National Research Council, at the request of the Food Distribution Administration and Office of Price Administration. (1) The special committee is studying procedure for obtaining certification by physicians of invalids and persons with specific diseases requiring extra quantities of rationed foods; (2) Qualifications of those who may certify as to these needs for extra foods; (3) The procedure of certification which will place a minimum burden on physicians; (4) Diseases justifying extra allowances of rationed foods with specific determination of what foods and what quantities are necessary.

The committee, which is the subcommittee on Medical Food Requirements of the Committee on Drugs and Medical Supplies of the National Research Council, also will advise OPA with respect to appeals from decisions of local rationing boards. Members represent the following fields: internal medicine, surgery, obstetrics, pediatrics, dermatology, and metabolism (diabetes).

Members of the committee are: Dr. William D. Stroud, Professor of Cardiology, Graduate School of Medicine, University of Pennsylvania, Chairman; Dr. Clark W. Finnerud, Assistant Professor of Dermatology, University of Illinois; Dr. Gilbert J. Levy, Associate Professor of Pediatrics, University of Tennessee; Dr. Alton Ochsnor, Professor of Surgery, Tulane University School of Medicine; Dr. Cecil Striker, Secretary, American Diabetic Society; Dr. C. W. Munger, Director, St. Lukes Hospital (New York City); Dr. Philip S. Owen, Former Research Assistant, Harvard Medical School, who will serve as technical aide; and Dr. Fred L. Adair, recently Professor of Obsterics, University of Chicago, who will serve as a liaison member representing the Medical Needs Division of the Food Distribution Administration. Dr. W. W. Palmer, Professor of Medicine, Columbia University, and chairman of the National Research Council's committee on Drugs and Medical Supplies, is *ex officio* a member of the Subcommittee on Medical Food Requirements.

WILL PUBLISH BIBLIOGRAPHY

A project which will make The National Foundation for Infantile Paralysis the only complete central, authentic source of information on infantile paralysis in the world has been announced by Basil O'Connor, president of the Foundation.

A complete bibliography of all scientific literature that ever has been published pertaining to infantile paralysis is being compiled by the foundation, and is expected to be ready for publication in book form in the early part of 1944. The first volume will contain a record of all scientific material on poliomyelitis published in the world up to the end of 1943. Subsequently, the data will be kept up to date by publication of annual supplements. Brief abstracts of the more important articles will be included in the bibliography to be published by the Foundation.

"This will be the first time there has been compiled a complete international bibliography on infantile paralysis," Mr. O'Connor said. "It will make available to the medical world data that will acquaint research workers with investigative work that already has been done in connection with the many aspects of the disease and be of great assistance in helping them avoid repetitious investigations.

"The collection of these data will make available for medical men throughout the world complete information pertaining to infantile paralysis articles published in any language. It will make instantly available to those who request it data never before gathered in one central location."

The compilation of the information is being carried out for the Foundation with the aid of the library of the American Medical Association and the John Crerar Library, both in Chi

cago, under the direction of Morris Fishbein, M.D., editor of The Journal of the American Medical Association, and Dr. Ludwig Hektoen, Chicago, editor of the Archives of Pathology.

Through the work of the International Committee for the Study of Infantile Paralysis, organized by Jeremiah Milbank in 1928, much time has been saved in the compilation of the early literature in the field of infantile paralysis. The Committee, prior to its dissolution in 1932, had collected data pertaining to all literature regarding the disease that had been published up to that time. These data, now the property of the Library of the New York Academy of Medicine, have been turned over to the National Foundation for inclusion in the publication. Assisting in carrying out the work in Chicago is Miss Ella Salmonsen, medical librarian of the John Crerar Library.

3,000,000 COMFORT ITEMS MADE FOR ARMY AND NAVY BY RED CROSS VOLUNTEERS

American Red Cross volunteers have produced the staggering total of 3,102,072 articles for the use of the United States Army and Navy hospitals and the able-bodied men in the armed forces within the past eight months, it was disclosed today.

Colin Herrle, assistant director in charge of Red Cross Domestic Operations, said the articles were made according to Army and Navy specifications.

Exceptions to military regulations were the comfort articles distributed to the men in hospitals. They included 18,184 bathrobes; 59,629 hot water bag covers; 19,162 pairs of pajamas; 16,329 pneumonia jackets and 16,259 sleeveless sweaters. Other items were afghans, bedroom slippers, bed shirts, bedside bags, pillows, pillow covers, quilts, socks and other essential clothing and equipment contributory to the comfort of convalescents.

Predominate on the list for Army were: 183,141 wristlets; 119,922 turtle-neck sweaters; 18,375 rifle mitts; 41,264 cap-mufflers and other warm apparel. These supplies are distributed among the soldiers by Red Cross field directors at the specific request of Commanding Officers and in time of emergencies.

Navy needs were met with 73,195 watch caps; 7,423 "Iceland" sweaters; 108,775 helmets; 5,220 boot stockings and 38,411 scarfs. These supplies are delivered to Navy depots where they are issued only upon request of Commanding Officers.

The Midwestern Area contributed the greatest amount of hospital equipment with a total of 221,781 articles while the Pacific Area led with its contribution of 720,570 items to the ablebodied of the armed forces. The report showed that, in the majority of cases, every area either equalled or exceeded its quota.

TO WHOM IT MAY CONCERN:

This is to inform you that because of the present emergency, the Office of War Information has decided that the Annual Reports of the Surgeon General of the U. S. Public Health Service will be discontinued for the duration of the war.

By direction of the Surgeon General.

Respectfully,
E. R. Coffey,
Assistant Surgeon General,
Division of Sanitary Reports
and Statistics

ANTISPASMODIC NEW PRODUCT OF SEARLE RESEARCH

Pavatrine — a safe, potent, non-narcotic antispasmodic for use in dysmenorrhea and gastrointestinal spasticities — is being introduced to the medical profession by G. D. Searle & Co.

Pavatrine has a dual antispasmodic action — both neurotropic and musculotropic. It has the ability to abolish uterine contractions and relax spasm of the stomach, small intestine, colon and urinary bladder.

To determine the human tolerance for Pavatrine, it was administered in amounts up to 23 grs. daily with complete freedom from untoward reactions. Usual adult dose is from 3 to 6 tablets per day.

Supplied in tablets (2 grs.) in bottles of 20, 100 and 1000.

★ BUY WAR BONDS ★

Medical Economics

Edited by R. K. Packard, M.D., Chairman of the Committee on Medical Economics of the Illinois State Medical Society, 826 East 61st Street, Chicago, Illinois.

The following was an editorial that appeared in the Chicago Tribune May 29, 1943.

"OUR FIGHTERS' HEALTH"

"News as heartening in its way as the tidings of victory itself has come from North Africa in the announcement by Maj. Gen. Ernest Cowell of the British army, director of the allied medical services, who says that the American and British armies in that area probably are the healthiest expeditionary force in the world and that no expeditionary force in history has had better provision made for its medical care.

Deaths from wounds in the African campaign were only a fraction, Gen. Cowell said, perhaps one-fifth or less, of the rate established in the first World war. One general hospital which handled 1,500 severely wounded cases reported only five deaths.

Of equal importance, of course, has been the protection of the armies against disease. Even after the medical discoveries of the 19th century laid the foundations of sanitation the disease ratio in armies was high.

In our own Civil war, it is said, the northern army suffered as many deaths from measles and the pneumonia that followed as from confederate bullets. The typhoid and yellow fever epidemics of the Spanish American war were far more deadly than the Spanish Mausers. In spite of the well organized medical corps of the first World war, the so-called Spanish influenza took a heavy toll in the flimsy training camps in this country.

From our campaigns in this war, both in Africa and in the Southwest Pacific the fighters have come back with the most glowing tributes to the medical corps. Its members, surgeons, orderlies, and nurses have taken just as great risks as the combat troops. Their hospitals have not been immune from bombing. Sometimes the ships that carry their equipment and supplies have been sunk. They have had to bathe their patients out of steel helmets, but the patients have had the baths. They have operated by candlelight, stayed on duty in their surgeries for 24 or 48 hours when the wounded were streaming in.

The story of the medical corps should be spread more widely, because it is one of the most comforting things that can be told the parents and wives of the fighting men."

The statements made in the above editorial speaks for the progress in medicine in the last 25 to 50 years, and also for the utilization of that progress, not only, in the care of the civilian population but in the care of our armed forces. It must be recognized that all medical men do not have the same ability and the same energy to progress and utilize known knowledge. However, in this World war the best trained medical men in the various branches are now serving their country, and they are doing the particular type of work that they have been trained to do; and just as they have evidenced ability and energy in private practice to utilize known knowledge they are continuing to do this in their military capacity.

It is gratifying to both the public and the profession that politics has had little place in the medical department of the army in World War II, and perhaps this is one of the most important reasons for the splendid reports that

come forth. In the past wars politics have played an important part in medical appointments as in all other appointments, and probably this continues to be more or less true in many branches outside of the medical corps.

It is well known that in the Civil war Sherman complained bitterly of the politicians, and when he was considered a candidate for nomination for President of the United States he declined, saying that he wanted nothing to do with politicians.

It is also well established that Jefferson Davis, in spite of the fact that he had some military training, allowed politicians to influence him to a large degree, and that he kept Lee shackled for a long period of time because he could not forget his political status and political influence.

Perhaps if other branches of our military service would follow the line that has been followed in the medical corps, and place men in the positions that they have been trained for and demonstrated their ability to function in; many of our problems would be solved with less expense and less loss of lives. It seems a strange thing that in the midst of war we cannot call upon our best trained men to do the thing they are best trained for. Obviously many men are occupying positions of great trust and importance that they are trained for, and in those instances they are proving successful in the operations they are undertaking.

On the whole scale in Washington it seems evident that many departments are not well coordinated such as Man Power Commission, O.P.A., and etc. As their troubles mount there seems to be no direct tendency to replace these men with trained men, but rather to create a new bureau, thus hoping that something will happen to iron out the problems at hand.

R. K. Packard, M.D., Chairman
Committee on Medical Economics.

June 1, 1943

FIND KIDNEY VASCULAR DISEASE NOT SOLE FACTOR IN PRODUCING HYPERTENSION

Microscopic studies of specimens of the kidneys from 100 living patients with hypertension or high blood pressure, made during the course of operations for the hypertension, showed that 60 per cent had normal renal or kidney function, in contrast to the almost invariable finding of well developed disease of the minute arteries in the kidneys of hypertensive patients observed post mortem, Benjamin Castleman, M.D., and Reginald H. Smithwick, M.D., Boston, report in *The Journal of the American Medical Association* for April 17. Twenty-eight per cent of the biopsies made by the two men showed no or insignificant vascular disease and an additional 25 per cent only mild changes.

"From these observations," they say, "it is concluded that the evidence of renal vascular disease in more than half of the cases was inadequate to be the sole factor in producing the hypertension and that in many of these and probably others the hypertensive state antedated the renal vascular lesion (injury), which, once established, probably aggravated the hypertension. Furthermore, these observations are not in keeping with the concept that renal ischemia (temporary deficiency of blood due to contraction of a blood vessel) due to preexisting renal vascular disease is the cause of essential hypertension in man. . . ."

Commenting on these findings, *The Journal*, in the same issue, explains that:

"The demonstration by (Harry) Goldblatt that chronic hypertension regularly follows partial clamping of the renal arteries of dogs and by (A. R.) Moritz and (M. R.) Oldt that people with chronic hypertension usually show diffuse renal arteriolar sclerosis (hardening of the minute arteries) at necropsy, whereas normal persons rarely have such sclerosis, suggests that renal vascular disease in man may be the etiologic (causative) counterpart of the Goldblatt clamps in the dog. . . . Although all their (Castleman's and Smithwick's) patients had severe chronic hypertension, the renal vascular disease observed in 53 was so slight that it seemed unlikely in the opinion of the authors 'that the blood flow could have been embarrassed sufficiently to be the one factor responsible for the hypertension.' Thus it would appear that most if not all of the renal arteriolar lesions observed in persons dead of the effects of chronic hypertension should probably be regarded as secondary rather than primary. . . ."

A physician should be a servant of Nature, not her enemy. — *Paracelsus*, 1530.

Medicine's Role in the War Effort

ARMY AND NAVY MEDICAL TRAINING PROGRAM

Official Announcement on Details of Army and Navy Programs for Training Medical Students

ARMY PROGRAM FOR STUDENT TRAINING

In order to assure the Army the annual loss replacements for medical, dental and veterinary officers, the Army Specialized Training Division has been directed to train a sufficient number of enlisted men, who, on receipt of the appropriate degree in medicine, dentistry and veterinary medicine, may be appointed in theMedical, Dental or Veterinary Corps, Army of the United States. Such training will include both a pre-professional and a professional phase and as far as possible will be continuous. To this end, basic military training will not be required of enlisted men of the Enlisted Reserve Corps who are bona fide preprofessional and professional students and who, when called to active duty, are finally selected for premedical or medical training under the Army Specialized Training Program. Basic military training will be, however, required of all other groups.

ENLISTED MEN

Enlisted men recommended by Army Specialized Training Program Selection Boards for assignment for such preprofessional or professional training, at any level, must be thoroughly qualified as regards fitness and aptitude for subsequent professional training. Their scholastic ability likewise must be such that attrition in both the premedical and medical phases will be held to a minimum.

STUDENTS IN MEDICAL ADMINISTRATIVE CORPS

There are now in approved schools of medicine, dentistry and veterinary medicine approximately 22,000 students who hold commissions in the Medical Administrative Corps, A. U. S., or in the Officers Reserve Corps and who are on an inactive status for the purpose of completing their professional training with a view to appointment in the Medical, Dental or Veterinary Corps, A. U. S. The discharge of these students, at their own request, from their commissions and their enlistment in the Enlisted Reserve Corps has been authorized. Students so enlisted will be ordered to active duty at the end of the academic period which terminates between April 15 and June 30, 1943 or, if the academic period continues beyond the latter date, on June 30, 1943. Orders calling such enlisted men to active duty will be issued fifteen days prior to termination of the academic period or June 30, 1943, whichever is applicable. These students will be invited to submit letters of resignation for the purpose of enlistment in the Enlisted Reserve Corps.

Contracts will be requested with all approved schools effective not later than the beginning of the next academic term which ends before June 30, 1943.

ROTC STUDENTS

First and second year advanced course ROTC medical students who hold commissions in the Medical Administrative Corps, A. U. S., or in the Officers Reserve Corps and who resign their commissions and enlist in the Enlisted Reserve Corps will be called to active duty as prescribed. Those not in the Enlisted Reserve Corps may

be voluntarily inducted for subsequent transfer to the Enlisted Reserve Corps and call to active duty.

ASSIGNMENT OF STUDENTS

Medical, dental and veterinary students in good standing in approved schools of medicine, dentistry and veterinary medicine, not under Army jurisdiction, if inducted under Selective Service subsequent to June 30, 1943, will be assigned with the least practicable delay to the Army Specialized Training unit at the institution in which currently matriculated.

The total number of college students pursuing approved premedical, predental and preveterinary courses is greatly in excess of the capacity of approved schools of medicine, dentistry and veterinary medicine. It is emphasized that these trainees are soldiers assigned for university training rather than "students in uniform." Premedical, predental and preveterinary students in the Enlisted Reserve Corps will be called to active duty and assigned to an appropriate Specialized Training and Reassignment unit for classification and reassignment. Enlisted men recommended by selection boards at specialized training and reassignment units for continuation of their preprofessional training or for professional training will at the proper time be assigned to an appropriate Army Specialized Training Unit. Those not recommended for such training will be assigned to an appropriate replacement training center for the completion of the required period of basic military training or, for those not recommended for any phase of Army Specialized Training to an appropriate unit or installation within the territorial limits of the service command.

INDUCTION UNDER SELECTIVE SERVICE

Premedical and predental students only, not in the Enlisted Reserve Corps, if inducted under Selective Service subsequent to the end of the academic period which teminates prior to June 30, 1943 or, if the academic period continues beyond this date, subsequent to June 30, 1943, reporting at reception centers, will, if they attain a score of 115 or better on the Army General Classification Test, be transferred to a Medical Department Replacement Training Center if practicable or to an appropriate installation within the geographic limits of the service command for basic military training. Such men will be designated as candidates for the Army Specialized Training Program. They will there appear before the Army Specialized Training Program field selection board for selection or rejection for the Army Specialized Training Program. Enlisted men who have completed the required preprofessional schooling and have been recommended for professional training by the Army Specialized Training Program selection board at a Specialized Training Assignment and Reclassification unit, but for whom there are no appropriate immediate vacancies in contracting schools of medicine, dendistry and veterinary medicine, will be assigned to a Medical Department Replacement Training Center and/or to other service command installations, preferably with the Medical Department, pending assignment to a suitable unit within prescribed quotas, for professional training.

The procedures for the selection of enlisted men for assignment for training in medicine, dentistry and veterinary medicine under the Army Specialized Training Program will be no less thorough and exhaustive than those now in common usage for acceptance for admission to the accredited professional schools throughout the country.

NAVY PROGRAM FOR STUDENT TRAINING

Medical students who at present hold commissions as Ensigns H-V(P), USNR, have the option of remaining on inactive duty in their present status until completion of their course in medical school at their own expense, or they may resign their commission and enlist as Apprentice Seamen, U. S. Naval Reserve, and be placed on active duty with pay, uniforms and a per diem allowance to defray the cost of their subsistence. The tuition will be paid by the Navy, including the cost of books and the cost of renting microscopes or other equipment necessary in the medical courses.

ENTERING STUDENTS

Students who are now in medical school, or those who have been accepted to the next entering classes, who are Ensigns H-V(P), USNR, will continue in these schools. On satisfactory completion of the prescribed course of studies, the students will be commissioned in the Naval Reserve as Lieutenants (junior grade) MC-V(G) on an inactive duty status to complete one year of internship in a civilian hospital.

Those students who desire to enter the Medical Corps of the regular Navy and successfully pass the examination will be assigned to an internship in a naval hospital, on active duty.

If the student fails to maintain satisfactory standards on active duty in the Navy College Training Program, he may be assigned to general duty in enlisted status in the rating for which qualified. The pay of Apprentice Seamen on active duty, without dependents, is $50 per month. Certain allowances are made for the dependents of an Apprentice Seaman on active duty contingent on the allotment by the man concerned of a portion of his pay to his dependents. The amounts of the allowances depend on the number and relationship of the dependents.

ENSIGNS

Married Ensigns H-V(P), USNR, are eligible for enrolment and participation in the Navy College Training Program. The maximum age restrictions prescribed for other Apprentice Seamen in the Navy College Training Program are not applicable to former Ensigns H-V(P).

Former Ensigns H-V(P) who enlist and who are attending medical school on or about July 1, 1943 will be ordered to active duty at the school which they are attending at that time. Navy medical students in the Navy College Training Program will pursue an accelerated course. While on active duty in school, medical students will wear a Midshipman or Cadet type uniform with suitable distinguishing insignia.

Applications for appointment as Ensigns H-V(P), USNR, from civilian students in medical school, or those students who have been accepted for admission to the next entering class of an approved school, will not be accepted after June 1, 1943. Thereafter qualified students who are in attendance at or who have been accepted by an approved medical school will, on approval by the Bureau of Medicine and Surgery and the Bureau of Naval Personnel, be inducted as Apprentice Seamen, Class SV-12 (S), for training in the Navy College Training Program.

PREMEDICAL STUDENTS

Premedical students assigned to colleges and universities particating in the Navy College Training Program will be made up mostly from premedical students who now hold an enlisted rating in class V-1 or V-7, USNR. A small percentage of premedical students will be taken from the successful applicants who passed the test given on April 2, 1943 in all high schools and colleges in the country. Tests will be given again in November 1943 and in March 1944.

Premedical students formerly in class V-1 and V-7, on active duty in the Navy College Training Program, who are not selected for medical training by the Navy but who are acceptable to an approved medical school, may submit request to the Bureau of Naval Personnel for discharge. Each such request will be considered on its own merits. If not acceptable to an approved medical school, such men will be considered candidates for other officer candidates training in which qualified.

The course of studies for premedical students entering the first term on July 1, 1943 will run for five terms of sixteen weeks each. It is proposed to screen premedical students after the first year of their studies. The successful students will continue their course until completion; the failures will be allowed to continue the term they are in at the time of failure and then be assigned other training. It is the intention of the Navy Department that Naval trainees, pursuing a premedical course and later assigned to medical schools, be acceptable to the schools to which ordered.

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CIVILIAN DEFENSE AFFILIATED MEDICAL UNITS

The following resolution has been passed by the Directing Board of the Procurement and Assignment Service:

As a measure of protection for the civilian population in case of enemy action, the United States Public Health Service in cooperation with the Medical Division, Office of Civilian Defense, has invited selected hospitals and medical schools to organize affiliated units of physicians in accordance with a specific table of organization. The physicians of these units are asked

to accept reserve commissions in the U. S. Public Health Service on an inactive status with the understanding that they will be called to active duty only for the following purposes:

1. To provide medical care for civilians who must be moved out of their communities of residence as the result of enemy action.

2. To provide temporary medical care in extreme emergency for military personnel in extemporized hospitals in the area.

Affiliated units will be called to active duty only on the recommendation of the respective state chiefs of Emergency Medical Service. In selecting units for activation, the state chiefs will call on those physicians who can best be spared temporarily from their civilian practices. By virtue of this arrangement, civilian medical needs will be safeguarded against haphazard withdrawal of physicians in an emergency.

The Directing Board of the Procurement and Assignment Service fully approves of the formation of aciliated units for the purpose outlined and urges all state chairmen of the Procurement and Assignment Service to facilitate the organization of these units in every way possible. Applicants for U. S. P. H. S. reserve commissions for service in the affiliated units should not be cleared with the Procurement and Assignment Service because the terms of their commissions fully protect the civilian medical needs of the communities in which the units are being organized. It is understood that the U. S. Public Health Service will accept applications only from the following groups: (1) physicians 45 years of age or older, (2) women physicians, (3) physicians of any age who are physically disqualified for military duty, (4) physicians already declared by the Procurement and Assignment Service to be essential for civilian needs.

In the case of each physician under 45 who is being considered for such a commission and who is physically fit for military duty, it is understood that the U. S. Public Health Service will obtain from the local Procurement and Assignment Service chairman concerned assurance that the physician has already been declared essential for civilian needs. The fact that Reserve Officers of the U. S. Public Health Service are now classified as 4-B by Selective Service does not affect this arrangement, since the Public Health Service has agreed that if such physicians holding inactive reserve commissions are subsequently declared by the Procurement and Assignment Service to be available for military duty, they will be permitted to resign their commissions.

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PENICILLIN

Statement Released by the Committee on Medical Research

A. N. Richards, Chairman

This statement is designed to acquaint the medical profession with the progress of efforts which are being made by the Committee on Medical Research of the Office of Scientific Research and Development, by the Division of Medical Sciences of the National Research Council and by certain commercial companies to promote investigation of the therapeutic usefulness of penicillin and to increase the available supply of this remarkable substance. They were initiated and are continuing as a phase of the war effort, directed primarily toward the benefit of our armed forces.

Penicillin was discovered by Fleming in London in 1929. The first information concerning its unique therapeutic possibilities was revealed in the publications in the *Lancet* (1940 and 1941) of experimental and clinical studies by Florey, Chain and their collaborators of Oxford. The intense interest in it now manifest in this country was initiated not only by those papers but by personal communications with Professor Florey during his visit to this country in the summer of 1941.

Florey's visit was arranged by the Rockefeller Foundation. After conferences with interested members of the National Research Council and the U. S. Department of Agriculture, Florey and his colleague Heatley proceeded to the Northern Regional Laboratory of the Department of Agriculture at Peoria, Ill. where studies were at once initiated by Dr. R. D. Coghill and Dr. A. J. Moyer on cultural characteristics of Penicillium notatum, the organism which makes penicillin, and on methods of purification of that substance. These studies are still continuing and have been of great value to those who are undertaking the production of penicillin.

Returning from Peoria, Florey consulted with several commercial companies in the hope that they might undertake production developments. His efforts in this direction were supported by encouragement from the Committee on Medical Research and the National Research Council, and in the early autumn of 1941 research looking toward production was begun in the laboratories of Merck and Company, E. R. Squibb and Sons, Charles A. Pfizer and Company, the Lederle Company, and perhaps others of which we were not aware. That research has continued; the interest of other companies has been aroused until today some sixteen companies are engaged in or intend to become engaged in the production of penicillin. In no instance has production advanced beyond the pilot plant stage; in the majority it is still in the laboratory stage.

The difficulties which confront large scale production are very great. They arise chiefly from the fact that in the metabolism of the mold only very minute amounts of penicillin are formed and those only after days of growth. A yield of as much as 1 gram of the purified product from 20 liters of culture fluid would be regarded as exceptionally high. In impure solutions penicillin is unstable; it is destroyed by bacterial or other contaminations to which the culture fluids are highly susceptible. Difficulties have been encountered in choosing the most productive strains of the mold and the most suitable culture mediums, in the development of methods for ertraction and purification and in stabilization of the purified product.

The first clinical tests of penicillin in this country were reported by Dawson of Columbia in 1941. Other supplies became available in 1942, and in June of that year the Committee on Chemotherapeutic and Other Agents of the National Research Council, under the chairmanship of Dr. Chester S. Keefer, was invited to organize and supervise clinical investigations in selected hospitals, the records to be coordinated by Dr. Keefer and his committee. The costs of these studies, now proceeding in some twenty civilian institutions, are provided by contract with the Office of Scientific Research and Development, recommended by the Committee of Medical Research. The results will be published in due course.

Six weeks ago arrangements were made by the Surgeon General of the Army for clinical tests at the Bushnell General Hospital, Brigham City, Utah. There were to be found among soldiers returned from the Pacific area many cases of unhealed compound fractures, osteomyelitis and wounds with long established infections. The results have been so encouraging that plans are now in process for undertaking similar wound studies in ten general army hospitals and venereal disease studies in six. A similar though less extensive plan will be pursued by the Navy.

The results of these investigations thus far have completely upheld the early promise contained in the reports of Florey, Chain and their collaborators. More than 300 patients have been or are being treated with penicillin. There is good reason for the belief that it is far superior to any of the sulfonamides in the treatment of Staphylococcus aureus infections with and without bacteremia, including acute and chronic osteomyelitis, cellulitis, carbuncles of the lip and face, pneumonia and empyema, infected wounds and burns. It is also extremely effective in the treatment of hemolytic streptococcus, pneumococcus and gonococcus infections which are resistant to sulfonamides. It has not been found effective in the treatment of subacute bacterial endocarditis. Studies of the results of its local application are still inadequate.

Properly made preparations have given no toxic reactions, even from the largest dosage. Its rapid excretion in the urine necessitates frequent administration when given intravenously or intramuscularly.

The work of the coming three months can be expected to result in clearer definition of the conditions in military medicine in which penicillin will be most useful, of its limitations and of the most advantageous as well as the most economical methods of its administration. At the same time intense efforts are being made by manufacturers to expand production to a point at which it may be made available in significant quantities not only for casualties returned to this country but also for our forces overseas.

Unless an expansion of production takes place at a greater rate than can now be foreseen, the supply for civilian medical needs in the near future will be exceedingly limited.

AMERICAN SOLDIERS ESCAPE TYPHUS

Although more than 100,000 cases of typhus fever occurred in North Africa in 1942, American military forces in that region have come through almost untouched by this disease, according to statisticians of the Metropolitan Life Insurance Company. In Tunisia in 1942 there were more than 16,000 cases, in Algiers more than 35,000 cases, in French Morocco 26,000 cases and in Egypt about 23,000 cases. It is likely that the favorable situation will continue with regard to our military forces in that region, because our military physicians are alert to the dangers from this disease, which is still a menace to the health of the civilian population.

A potentially dangerous situation exists in the battle areas and occupied regions of eastern Europe, but the facts are carefully concealed by German censorship. Even in Germany itself, which for generations has been free from typhus, numerous cases have been reported, the first seven weeks of 1943 showing 800, or nearly twice the number of cases, for the first quarter of 1942. There were more cases in Rumania in 1942 than at any time since 1936; for February 1943 the cases were said to have been 40 per cent greater than in the preceding February. Typhus is more prevalent in Bulgaria and in Hungary this spring than in 1942; some outbreaks have occurred even in France. The starved and ragged populations of eastern Europe are fertile soil for the spread of typhus. Until the axis armies are cleaned out of these countries and order and public health administration restored and the people get enough food and clothing, typhus will not be brought under control as it is among our own troops.

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FIRST WOMAN PHYSICIAN COMMISSIONED UNDER NEW LAW

Major Margaret D. Craighill, former dean of the Woman's Medical College in Philadelphia, who is the first woman physician to be commissioned directly in the Army under recently enacted legislation (THE JOURNAL, May 8, p. 123), will soon report for duty in the preventive medicine section of the Surgeon General's Office, Washington, D. C. According to the New York *Times,* Dr. Craighill's father and grandfather, Col. William E. Craighill and Gen. William P. Craighill respectively, were West Point graduates. Dr. Craighill was born in Southport, N. C., and grew up in Mobile, Ala., and in Portland, Maine. She received an A.B. degree from Wisconsin University in 1920 and an M.S. in 1921, and an M.D. degree from Johns Hopkins University in 1924. The next year she interned there in gynecology and surgery. She was assistant in pathology at Yale University Medical School from 1925 to 1926 and assistant resident in gynecology at Johns Hopkins from 1926 to 1928. Dr. Craighill is a specialist certified by the American Board of Obstetrics and Gynecology.

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DR. PAUL W. DAVIS REPORTED MISSING

According to the Peoria *Star,* Dr. Paul Wilson Davis of Jennings, a suburb of St. Louis, and a first lieutenant in the Civil Air Patrol, has been missing since February 26, when he took off in a plane with an observer and with other planes as escorts to a convoy along the Atlantic coast. The planes became separated while patrolling. Lieutenant Davis radioed a distress message, but the other fliers and the Coast Guard after searching the area were unable to find any trace of the plane and its occupants. It is said that Mrs. Davis, the wife, and the young son in St. Louis were notified from Washington. Dr. Davis entered the Civil Air Patrol last September. He was serving both as a pilot and as base physician. He was born in Chicago in 1912, later lived in Peoria and graduated in medicine at St. Louis University School of Medicine in 1939. He had an internship at King County Hospital, Seattle, and a residency at Methodist Hospital in Peoria. He was in practice in Jennings before joining the Civil Air Patrol.

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FEMALE PHYSICIANS

On April 16 the President signed a bill enabling the commissioning of women in the Medical Corps for duty as physicians. No similar authority exists with regard to dentists or veterinarians. The procedure outlined for the processing of male physicians will apply to the proc-

essing of female physicians. No female physician will be processed until the District Office has received her availability clearance form from the state Procurement and Assignment physician chairman. It is anticipated that some delay may ensue before the Surgeon General will be in a position to recommend female physicians for appointment, because regulations and forms must be prepared and issued. Whereas district offices are authorized now to process any female physicians whose availability may be declared by the Procurement and Assignment Service, such candidates should be advised that there will probably be a considerable time lag in the consideration of their cases by the Surgeon General. Until further instructions, district offices will use the same forms and procedures in processing female physicians as are in use for male physicians. Female physicians processed and appointed will count against, and are not in addition to, the total figure for physicians in the Surgeon General's 1943 program.

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QUINACRINE PLACED UNDER ALLOCATION

Quinacrine, a synthetic chemical having antimalarial properties similar to those of quinine, which is now almost unobtainable, was placed under allocation on April 2 by the War Production Board through issuance of General Preference Order M-306. Quinacrine is also produced under the trade name of atabrine. A producer seeking authorzation to deliver or use quinacrine in any month beginning with May 1943 must file application with the War Production Board on form PD-602 by the 20th of the preceding month. In addition, each producer is required to file by the 5th of each month, beginning with May, with WPB on form PD-602 a list of civilian customers to whom he made deliveries in the preceding month. A producer is defined in the order as a person who produces or imports quinacrine or has it prepared for him or who makes quinacrine tablets or other dosage forms of quinacrine except ampules.

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SOLDIERS TO HAVE FREE LEGAL AID

Heretofore a soldier who needed legal advice went to his company commander, the post chaplain, or the Red Cross representative. Under a new plan sponsored by the War Department and the American Bar Association, a commissioned officer who is also a licensed attorney is appointed the legal assistance officer at each post, camp or station. The legal assistance officer will have the cooperation and help of volunteer civilian lawyers from nearby communities who have been chosen by the state bar association committee on war work for that purpose. The only barriers put on the aid offered is that the legal assistance officer may not collect debts, advise or assist military personnel who are or might be subject to court-martial investigation or charges, and he may not appear before civil courts, boards or commissions as attorney for the soldier or officer. All talks and dealings between military personnel and the legal assistance officer will be considered strictly confidential and personal. No superior officer may order disclosure of any information confided to the legal assistance officer. Free legal aid for all military and civilian personnel of Carlisle Barracks is now guaranteed under a recent War Department order authorizing the appointment of a legal assistance officer there. Capt. Henry E. White, post judge advocate, has been given this additional duty.

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RECIPROCAL MEDICAL ARRANGEMENTS FOR CANADIAN AND UNITED STATES SOLDIERS

Reciprocal medical arrangements have been made for Canadian and American soldiers whereby personnel of the U. S. armed forces while on duty, leave or furlough in Canada who cannot obtain medical or dental treatment from the United States facilities in Canada will receive free such treatment as is necessary for immediate requirement from the Canadian medical and dental services. If treatment or hospitalization will exceed thirty days, arrangements will be made for transfer, where possible, to the United States. Canadians in the armed forces in the United States who require medical or dental attention will report to the nearest U. S. naval or army hospital, the nearest veterans hospital or Veterans Administration office or to the nearest medical representative of the Veterans Administration. If none of these facilities are immediately available, the Canadian

personnel will be admitted to civilian hospitals in the United States. The Canadian legation in Washington will be notified and bills for treatment will be forwarded to the Surgeon General of the U. S. Army, Washington, D. C. Officers of the U. S. Army admitted to Canadian hospitals will pay $1 a day subsistence while patients.

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MALARIA FIGHTERS IN CONSTRUCTION BATTALIONS

The U. S. Navy started courses in malaria control for the training of medical officers and hospital corpsmen at the Navy Medical School, Bethesda, Md., as soon as the war in the Pacific began, and malaria control units are now a part of all naval and marine forces in war zones in which malaria is present. These units comprise malariologists, entomologists, sanitary engineers and hospital technicians. Now the Naval Construction Battalions which accompany combat forces have organized malaria control groups within their own battalions, thus providing 110 trained men to fight malaria the moment a construction battalion moves in. A chief petty officer and nine other petty officers, all especially trained in malaria control, in addition to their regular Seabee training, head parties of 10 carefully selected and well trained men each, whose duty it is primarily to eradicate sources of malaria infection. These men, however, are part of the regular construction battalion and when not engaged in malaria control take part in other work.

The training of Seabee men for malaria control which is carried out at Camp Peary, Va., includes among other things instruction in draining, spraying and ditching and in individual precautions against malaria. The prevention of malaria in men landing in an infected tropical area begins with the wearing of head nets and gloves, the use of mosquito repellents and the taking of quinine or atabrine. The spraying of huts, and tents, the screening of shelters and the segregation of infected natives are done when possible.

Rear Admr. Ross T. McIntire, Surgeon General of the Navy, considers, the *Army and Navy Journal* of May 1 says, that malaria is the most serious medical problem of the war. Admiral McIntire has emphasized the need of the navy for medical officers who are skilled in the treatment and prevention of malaria. Commanding officers in tropical areas consider that tools and equipment for malaria control are almost as important as ammunition and food. The Secretary of the Navy, Frank Knox, has directed all navy unit commanders to give disease control priority in operations in tropical combat zones in keeping with the military situation. The Navy has recommended to all medical schools that emphasis be placed in their instruction on the study of tropical diseases, particularly for those students who plan to enter the navy medical corps.

SMALLPOX VACCINATIONS GIVEN TO 36,000 IN DISTRICT OF COLUMBIA

About 36,000 residents of Washington, D. C., most of them employes of the federal government, have been vaccinated against smallpox since last December, the District of Columbia Health Department announced. About 10,000 of these vaccinations were given by physicians of the health department and the rest by the medical staffs of various federal and District agencies.

The outbreak of smallpox in nearby Pennsylvania stimulated the current vaccination drive, but Dr. George C. Ruhland, health officer of the District of Columbia, is still urging that all persons living there who have never been vaccinated should take this health protection immediately.

The reason is that Washington is the crossroads of the world in war activities. People are coming not world, many of them from regions where vaccination only from the entire nation but from all over the against smallpox is not practiced, and this increases the danger to unvaccinated persons there.

No case of smallpox has been reported in Washington in the past ten years. — *Science News Letter*, March 13, 1943.

TUBERCULOSIS IN WAR TIMES

Fire is fire, no matter what the fuel, but when gasoline is thrown on a flame a dangerous explosion results. Tuberculosis is the same disease now as in peacetime, but war invariably favors a flare-up of tuberculosis and creates new difficulties for those who must combat the blaze. The hard-pressed general practitioner is a seasoned fire-fighter whose aid must be enlisted and whose effort must be supported if smoldering tuberculosis, lately coming under control, is to be prevented from spreading into a serious conflagration. Even veteran firemen, however, periodically examine their equipment and drill themselves to increase their efficiency.

Original Articles

THE FUTURE OF MEDICINE

President's Address

EDWARD H. WELD, M. D.
ROCKFORD

It is an established custom that retiring Presidents give a short address at the conclusion of their services. It is, also, an established custom that each retiring President has always spoken on the general topic of the future of medicine. This subject can be approached in many ways and lends itself to a resume of the present statis of medical practice, a forecast of the future of medicine, and a summary of the part that the Illinois State Medical Society may have in shaping the future of medicine.

We might first delve into the historical background as your past President, Dr. James Hutton did in his splendid address before this Society two years ago. An abstract of that speech shows us that the practice of medicine in this State was built up by staunch individualists who realized that only pooling their efforts so as to standardize medical education, hospital work and the general practice of medicine, could they hope to achieve the best possible medical service for all the people. It was to this end, that the Illinois State Medical Society was formed 103 years ago by a group of individuals who had the common good and welfare of the people of Illinois in constant view. These groups of men and women banded together and grouped together as we are banded and grouped together in an unselfish manner for the past five score and three years.

Given at the 103rd Annual Meeting, Chicago, May 19, 1943

The accomplishments of the past century up to the present time have given us improved medical practice. Medical education has gone forward and kept pace with all advances of the World at large. It has been a cooperative effort where the medical men have combined to unselfishly give to the World fruits of their labors as is evidenced by the discovery of insulin in the treatment of diabetes, by the treatment of pernicious anemia with the essential hormones, but the wonderful research that is developing as rapidly about those diseases which have to do with vitamin deficiency. With the rapid advance of a better understanding of the endocrine disturbances of life and by that magnificent achievement in chemical therapy known to the World as the sulphonomides. These researches as well as many others which I do not have time to enumerate, have enriched the lives of all of us, and have added a spirit of interest and enthusiasm among the medical profession. A spirit of thankfulness that we are members of such a wonderful profession. A spirit of intense satisfaction that we can help in the building up of human life in all of its endeavors. A spirit of God given thankfulness that we are blessed with a roll in civilization that has to do with the saving of human life, and not with its destruction. The good doctor works all the time to see that proper mating is done from healthy individuals, that the baby has protection from infectious diseases, that his nutrition is ample, that his environment is the best possible, that his school life is guarded against the hazards of adolescence and that he is taught the fundamental principles of right living. The medical

profession seeks to guide and guard his working hours and has been evidenced by the enormous interest shown industrial medicine. The medical profession is showing a profound interest in the later years of life, trying to protect those years against the hardship and worries of life, to improve the housing, the food and general environment of the aged, and to generally improve the happiness, the fun of living and the length of life to the greatest possible extent. We have never, Thank God, taught or fostered anything but the lengthening of the span of human life and the advancement of human happiness.

The practice of medicine as I have seen it in my generation is gradually changing. Life is changed. Without change there is death, therefore, the practice of medicine must change. There is more State medicine, more socialized medicine. We are going to have a gradual change in our method of living and our method of practice, this is inevitable. We have gone along with many of the reforms that have been instituted in the past generation, and we are firmly convinced that "haste makes waste", and that changes, if they are going to be for the good, should be gradual. I am firmly convinced that one of the greatest powers for satisfaction in life, and the joy of living lies in the knowledge within the individual that he has done something for humanity. If he is endeavoring to do the right thing in a religious and moral sense, if he is endeavoring to do the right thing as far as protecting himself and family against the hazards of want, and if he is accomplishing something to this end then he gets a satisfaction out of life that is second to none. A satisfaction that he cannot acquire by having things given him, and I believe that it is this satisfaction, this individual way of life, this democratic way of life that we are fighting for.

In the practice of medicine there is room for improvement, many things are not done right. We should give the best possible service to all the people all the time. We are going to have changes, but the changes should be gradual and each change should have thoughtful consideration. The medical profession itself should solve its own problems. It is possible that we should be prodded occasionally by outside influences, but the fundamental interest should rest with the medical profession and the medical men and women should not be backward in taking their share of responsibility because it is to them that the people look for guidance in the safe guarding of that most precious of all heritage of all individuals, namely the safe guarding of their own health.

Our first consideration should be to give everything we have in every possible way to the winning of the War. A War that will be won on the far flung battle fields where we desire above all else that no suffering exist and no loss of life occur because of the lack of proper medical care. We pledge ourselves to the effort with all the energy and resources at our command.

We realize that the War will be won by keeping the people on the home front as healthy as possible. This can be done by contributing in every possible way to aid in all problems of National health and to give our patients our best service at all times. This emergency presents an opportunity to drive home the well known truth of right living, proper nutrition, housing and sanitation.

The practice of medicine has many ramifications into every corner of our national and economic life. We know that we are often accused of failures on our part when the trouble really lies in the economical set-up of the individual. Rules and regulations that are permulated and that are stressed in an emergency often leave their indelible mark upon civilization after the emergency has passed. We hope that we can preserve a standard of practice worthy of the respect of our returning colleagues, but it is with fear and trembling that we look into the future and see the gradual changes that are bound to take place. Most of these changes as they have taken place have been for the good of mankind. To enumerate some of them, we have first, our pauper class, hospitals for the mentally sick, schools for the deaf, dumb, and blind, for the feeble minded, epileptics, soldiers and sailors orphans homes, veterans hospitals, county and municipal hospitals, tuberculosis sanitarium, the emergency relief set-up the NYA, the division for the crippled children, the rehabilitation of those that can be rehabilitated, old age assistance, aid to dependent children, maternal welfare, cancer control, control and treatment of venereal diseases, county health units, industrial health

aids where corporations are now practicing medicine and many others. These in themselves are often good. The anti-tuberculosis movement has accomplished a wonderful purpose. In our county it has reduced the death rate from 128 per 100,000 to 15 per 100,000. This has been done with definite incentive and stimulus of the medical profession assisted by various other organizations and so we can go down the list and find a growing tendency for the State to care for and preserve the health of its citizens. How far should this tendency be carried out? It looks as though from the above renumerated agencies that they control them not only from birth, not only from pre-natal care but from pre-marriage mating and they are cared for until they die. Of course all of this costs money. It is stated that the national debt per individual, every man, woman and child is two thousand dollars each. The War is costing ten million dollars an hour. In view of the enormous increase of our National debt is it not time that we begin to curtail our expenses? Is it not time that our Federal Government exerted some old fashion New England thrift and not continually force money upon our State with the idea that we can have it if we match it? You know and I know that the money that they give back to the State of Illinois, if we will match it, is money that came out of the State of Illinois less of course the handling charge. At times the multiplicity of our national endeavors are so ramifying that they bring nothing but confusion into the minds of its citizens. I prefer to look upon the Nation and State as being controlled by the same economical philosophy that the family is on Main Street. Most of these families have learned in the past that it is true and honest philosophy of American Life to pay their bills, to gradually buy their homes and to pay for the services that they receive and to forego those luxuries that they can not pay for. I believe that the parents of the house on Main Street can spoil their children by giving them too much, by doing too much for them. By doing too much for them they not only take away their initiative, but they destroy for them the joy and satisfaction of life. The children of the parents of the little house on C. Street are no different from the children of Uncle Sam, and I hope that we will not let the fundamental principals of real American life cloud the issue when we hear the promises that are made for a more abundant life. All of us want a more abundant life, we want it for everyone. We differ only in the way we feel that this more abundant life can be secured. The securing of the abundant life rests with the individual. Can you make a child happy, healthy, and full of the joy of living by giving him everything he desires? I don't believe you can.

I recite these instances of Governmental control of the practice of medicine and of Governmental control of its citizens not necessarily to condemn them but to call your attention to that direction of human living and to ask that you carefully weigh and consider all new changes that are advocated before adopting them and that you revalue and condense and simplify many of the existing agencies and bureaus that now exist.

What then is the future of medicine? Will it be Socialized medicine? Will American business become Federalized business or Socialized business? The extent that we adopt Socialized Medicine will depend upon the extent that we develop a socialized system of Government. Many of our citizens are deeply concerned toward the firm trend that has set in toward the socialization of both business and professional activities. The announced motive of such endeavor is to adequately provide the essential needs of life for all its citizens. This will require careful planning and as the changes have been rapid in the past few years they will become more accelerated in the post war period. It is time now to plan for the future of medicine, to see that the pendulum does not swing too far in any one direction. A committee on post war planning and security could well co-operate with men of other professions and business enterprises so that our American way of life will be stabilized in a progressive, clear and concise manner. We should take an active part in the politics of our local, state and national government so that we can help develop and shape the coming trend of thought. We should make a thorough study of hospital insurance and of all plans for prepayment of medical services. The medical profession realizes their sacred responsibility and will take an active part in the development of the future of medicine along the lines that will give the best possible medical service to all the

people. We must not fail to fight not only for our freedom as individuals but for the freedom of all our citizens because none of us want to be regimented. We want the American Way of Life.

"There was a dream — that men could one day speak the thought of their own choosing. There was a hope that men could one day stroll through streets at evening unafraid. There was a prayer — that each could speak to his own God — in his own church. That dream, that hope, that prayer became America. Great strength, youthful heart, vast enterprise, hard work made it so. Now that same America is the dream — the hope — the prayer of the world. Our freedom, its dream. Our strength, its hope. Our swift race against time, its prayer. We must not fail the world now. We must not fail to share our freedom with it afterwards. Keep Singing, Keep Working, and Fight for America."

ANALYSIS OF CURRENT TRENDS IN THE CONTROL OF MEDICINE

J. Ben Robinson
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BALTIMORE

Changed attitudes toward health services that have occurred in our social consciousness during the past few years and the impact of the war struggle upon the normal activities, thinking and behavior of the masses have created new health problems which the professions of medicine and dentistry should recognize and consider. This altered public attitude suggests the need for a reappraisal of the relationships of these professions to current health requirements and the necessity for considering some plan or plans that would provide an adjustment of old programs to new conditions — if, in the opinion of competent professional men, realignments or retrenchments are indicated. The health problems confronting dentistry and medicine are similar; they may vary somewhat in degree and in form, but the fundamental principles underlying them are basically the same. It would seem, therefore, that the two professions may derive mutual benefit from a frank discussion of their common problems.

Presented at the National Conference on Medical Service, Chicago, Illinois, February 14, 1943.

Those of us who have practiced our professions for the past quarter of a century cannot fail to recognize the far-reaching social changes that have taken place during that period. No matter what our personal opinions may be, or how much we may disagree with the changed social outlook, or how much we deplore current trends that portend further modifications of our social relationships, we must recognize the incontestable reality that deep and fundamental changes have occurred in our social philosophy and that the minds of our citizens are prepared for still further changes.

There has been a deep and sincere concern expressed by many leading citizens because of the firm trend that has set in toward the socialization of our business and professional activities. The motive of these efforts as announced by their sponsors is to provide adequately for the essential needs of the whole people. This concept projects a new point of view and as a consequence public favor is shifting its emphasis from the special interests of the individual to the communal interests of the group; instead of depending on its few stronger members for strength, society has come to recognize that its powers and security depend upon the maximum efficiency of the masses. Some of us, noting how rapidly this changing concept has developed during recent years, have concluded that it issues from the influence of certain political theories now in vogue and have assumed that the socialization concept appeared abruptly under the aegis of a political regime and that it will vanish as it came.

The term *socialization* should be defined, since its use is liable to instil fear of harmful regimentation among those whom it involves. An acceptable meaning of the term, and the sense in which it is used in this discussion, is the broadening of human opportunity to the degree that all deserving members of society may, by ethical processes, secure those essential things of life without which they cannot live happily.

There is no denying the fact that support for the socialization of health services has recently gained much strength. For many years there has been a growing insistence that health is the most essential of all the good things of life, that society in the over-all is not receiving health

care adequate to the needs of the whole population, and that some means should be devised by which preventive and curative health services may be distributed evenly and equitably to the whole people. There are those who regard these theories and the current insistence for action, as a passing fancy. Let us take a moment to test this assumption.

Some of you studied sociology in your pre-professional collegiate experience. If you go back in that experience as far as I, you will recall the Social Settlements of forty years ago, and you will remember that these institutions — Hull House right here in Chicago is an instance — were welfare centers, financed by philanthropy and administered by altruistic workers committed to the purpose of providing relief to the suffering, the underprivileged and the unfortunate. You will recall how these centers grew into movements and that soon the health aspect of this welfare program became as important as were clothing, food, and shelter. These movements gathered momentum rapidly and soon the government took notice of them. Typical milestones in the progress of the socialization concept were the White House Conference on the Care of Dependent Children, called in 1909 by Theodore Roosevelt; the International Conference of Child Welfare Experts, called in 1919 by Woodrow Wilson; and the White House Conference on Child Health and Protection, called in 1930 by Herbert Hoover. The emphasis on the importance of health in all these deliberations aroused the people to a realization of the obvious need for some organized effort to produce a better over-all health program in the United States. Scores of health study projects were activated to test the situation, the best known of which is the study conducted by the Committee on the Costs of Medical Care. The evidence presented and the conclusions arrived at by this committee were so compelling that they attracted the active interest of the federal government. Compulsory health insurance, suggested by the government, proved unpopular; but the Social Security Act of 1935 included sufficient support, through various assistance grants, to put the federal government firmly and permanently in the health promotion field. Assistance grants allocated to the various states have stimulated the rapidly growing state health programs that are gradually expanding their activities to include more and more personal services. These various activities have served to create an over-all formidable picture of a growing socialization of health services.

The realities of the health picture reveal that there is a very considerable number of our population who are physically unfit. This group does not include necessarily those currently suffering from pain or those whose lives are immediately imperiled by disease. An estimated one-quarter of all the youth of teen age and under in the United States are suffering from physical disabilities or handicaps, including mental deficiencies. This tremendous volume of physical defectives has excited the active interest and sympathy of welfare workers and the support of public officials, and now challenges not only our skills as professional men but our resourcefulness as members of altruistic professions.

It must not be assumed that I am advocating any changes in the traditional form of medical and dental health services; nor am I predicting or inviting an altered system of health service distribution. I am merely pointing out trends along new and different lines and am attempting to show how a new concept has developed that the professions should recognize and dispose of in the best interest of society as a whole.

It is apparent that the trend toward a more universal health service is growing day by day. There are indications also that some form of national health plan may be inaugurated soon in this country. Should we be confronted by such an eventuality the most important single consideration in connection with it is that the professions shall take the leading part. Certainly the best interests of the public require that the medical and dental professions shall occupy a prominent place in the planning of any scheme of socialization of the health services that may be promulgated and developed under the sponsorship of government, and that the direction of such a movement shall rest upon the authority and the judgment of the professional men. They understand the over-all and the intimate aspects of the health problem in all its implications and complications much better than laymen, and they are fully capable of extending their thinking

into the fields of sociology, economics and administration, in such a fashion as to render the best type of judgment on any changes that may be desirable. Unfortunately there is a tendency in certain quarters to impugn the motives and the integrity of the professions. The assumption is that they are vested interests and because they are engaged in health work as a vocation it is alleged that they are concerned only with their personal interests. Such a conclusion is absurd. The professions are qualified educationally and temperamentally to engage satisfactorily, effectively and ethically in planning for any federal or state health project that may be desirable.

The most important safeguard to be thrown around any enlargement of our health programs is the maintenance of adequate standards in professional education and practice. Nothing could be more detrimental to the American public than for the health standards that now exist to be disturbed or injured. The educational standards in the medical and dental professions have been established on a high level of quality that guarantees the competency of those to whom the health and lives of our people are entrusted. The elevation of educational standards, the broadening of requirements, and the extension of the time to qualify candidates for practice are not artificial arrangements designed to favor the professions. These advances have been made in order to include in the curriculums the essential elements of the rapidly expanding scopes of professional knowledge and skills. To step down these standards at this time would mean to impair the efficiency and usefulness of our physicians and dentists and to jeopardize the future of all health service. I do not make a plea for the mere preservation of these standards; instead I make the observation that the American way of life will not be satisfied with less than these standards ensure.

It is equally important to protect the existing high standards in medical and dental practice. Laws governing the practice of the health professions have advanced in quality and authority until incompetency among practitioners has reached an irreducible minimum. Health practice laws were never designed primarily for the benefit of the practitioner but rather for the protection of the public from abuse by the charlatan and the quack. The weakening of existing laws in any way would constitute an assault upon the high quality of medical and dental practice to which our people are accustomed and to which they are entitled.

As an indication of the danger inherent in efforts to provide health services at the expense of quality standards in practice, I shall refer to a recent significant occurrence. A suggestion, if not a recommendation, was issued a short while ago from Washington to the governors of states and to legislatures that certain emergency measures be enacted to make possible the suspension of medical and dental practice acts for the duration. This directive is based on the assumption that the critical shortages of physicians and dentists in certain areas can be corrected only through a plan of inter-state adjustments. The proposed plan provides that critical shortage areas may be supplied with health services by transferring physicians and dentists from one state to another. An analysis of these conditions shows that shortages in health service supply have been created in part by the tremendous drain made on dental and medical manpower to meet the needs of the armed forces, and in part by population shifts toward war industry areas. More than forty thousand physicians and thirteen thousand dentists have been dislocated thus far from their communities. The withdrawl of eighteen per cent of the normal professional manpower of this country must of necessity deprive the people of the same intimate and ready medical and dental attention to which they have been accustomed; and the migration of war workers has shifted health pressures to certain focal points where adequate health care does not exist. The withdrawal from private practice of physicians and dentists by the armed forces was generally uniform throughout the United States; hence a uniform shortage of health service among the states ensued. Because of these uniform shortages any artificial movement of physicians and dentists from one state to another would probably only shift acute shortages from one place to another. Experience has shown that pressure areas created by the movements of war workers can be provided for through intra-state programs without recourse to inter-state planning. Because of these facts,

representatives of the dental profession have stated that they do not believe the suspension of dental practice acts of the various states to be necessary. They contend that any uneven distribution of dental manpower can be adjusted within states and that the small good that would accrue from suspending dental laws would not justify the risk of permanently nullifying safeguards that have been years in building.

The American Dental Association has followed carefully the changes in social concepts of recent years. It has attempted to keep in touch with all health promotional schemes and it has offered to assist any sound movement; it has tried also to deter those trends that offer to injure health standards. It has established a branch office in Washington under the auspices of its War Service Committee, whose duty it is to keep intimately in touch with every movement that tends to affect the quality of service which dentists are prepared to give. It is the duty of this Committee to cooperate fully with every activity designed to promote the war effort; to note any recommendations from any source that might reflect upon the quality of dental education or dental practice, and to take whatever steps are necessary to prevent the development of any situation that would offer to reflect unfavorably on the services the profession is now rendering to either the armed forces or the civil population.

Another activity developed by the A.D.A. within the year is the creation of a national Council on Dental Health. The duty of the Council is to take cognizance of the over-all dental health situation in the United States, to study it, to analyze it, and to correlate dentistry's functions with it wherever necessary and possible. This plan does not mean that dentistry is engaged in promoting the socialization of health services; the Council has no authority to commit American dentistry to any socialized program, nor has it any desire to do so. It is a factfinding body and an advisory group with respect to all movements that tend to divert the course of dentistry into new and untried channels. It is now making a study of a number of important aspects of the over-all health picture such as social trends, low income groups, prepayment plans, industrial dental hygiene, state and local health programs, organized national health projects, research in public dental health, and a caries control program. The last named activity is designed to produce a plan or program of service that may be effective in the prevention or control of the wide-spread prevalence of dental caries.

The medical and dental professions are faced with a grave emergency and a profound responsibility. I have every confidence that the leaders in the American Medical Association and the American Dental Association are equal to the task. The situation requires earnest study of, and unselfish participation in, any venture that offers to benefit humanity, and it requires courage and faith on the part of our leaders to project creative thinking into an unpredictable post-war situation that will undoubtedly call for the best that intelligent, resourceful, hopeful men can give. I think our professions have leaders with both courage and faith.

42 S. Greene St.

THE STANDARDIZATION OF MATERNITY FACILITIES IN ILLINOIS HOSPITALS

Howard L. Penning, M.D.
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As we review the Illinois maternity hospital standardization program, we see that some of the most impressive items concern the problem of increased hospital obstetrics. Because of the effect of this situation upon hospitals and upon the administration of the program itself, I should like to discuss, along with the regulation of maternity facilities, the need for hospital expansion to keep pace with the growing demands upon those facilities.

Soon after the organization of the Maternal Welfare Committee in 1937 it was realized that many of the problems affecting maternal mortality and morbidity were associated with hospital facilities. Chicago recognized this fact two years earlier and took steps to remedy the situation by the adoption of regulations by the Chicago Health Department. Consequently, the attention

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of the Maternal Welfare Committee was directed primarily toward obstetrics in downstate Illinois.

An examination of existing statutes revealed the fact that a licensing act already existed. This was the Maternity Act of 1915. It provided for licensure of all hospitals and institutions receiving maternity cases, and was administered by the Division of Child Welfare of the Department of Public Welfare as an instrument to control the adoption of children.

A movement was then begun to modify the Maternity Act, and the 1939 session of the General Assembly amended the Act, placing licensing responsibility in the Department of Public Health. The administration of this new duty was placed in the Division of Child Hygiene. The adoption features of the Act were left a function of the Welfare Department.

A commission was appointed to draw up standards for the use of the Health Department in the appraisal of hospital facilities and the granting of licenses. This group was composed of obstetricians, pediatricians, representatives of the American College of Surgeons, the American Hospital Association, and the State Medical Society. The regulations it formulated were approved by the Director of the Department of Public Health and published in a bulletin entitled "The Maternity Hospital Law and Requirements for Licensure." This bulletin was issued to hospitals on January 1, 1940.

The standards concern medical facilities as well as plumbing and sanitation. The sanitary regulations are uniform for all hospitals, but the medical requirements are graduated according to the volume of obstetrics performed in the hospital. There are general provisions required of all hospitals regardless of size. When the volume of obstetrics reaches 150 deliveries per year, the regulations call for additional facilities. Again, when the work exceeds 350 deliveries per year, better accommodations are required. This unique method of adapting requirements to the volume of the actual work performed has proved very satisfactory. As we shall demonstrate later, the gross size of the hospital is no indication of the number of maternity cases treated.

Appraisal of hospitals began in March, 1940. Each appraisal was made by a physician with obstetrical training, aided by a sanitary engineer. Provisional licenses were subsequently issued to all hospitals operating and previously licensed by the Welfare Department. Recommendations for changes to correct the deficiencies were attached to the licenses. The first year's survey was completed in November, 1940.

The findings of that survey are very interesting. Hospitals of all sizes and descriptions were found, ranging all the way from a one-bed institution in the back of a doctor's office to some of the largest hospitals in the country. The following slides show the distribution of the hospitals in the state according to total capacity and also as to volume of maternity work. The first slide divides hospitals into six divisions according to the number of beds. Note particularly the discrepancy between the average number of deliveries for each group and the high and low figures.

HOSPITALS ACCORDING TO BEDS

		No. of Deliveries		
No.	Beds	Average	Largest	Smallest
21	1-10	31	98	3
38	11-25	61	256	11
41	25-50	133.5	332	19
64	51-100	282.4	605	15
51	101-200	597	1936	61
25	Over 200	1076.5	4610	249

The second slide classifies institutions according to the volume of obstetrics. Here again your attention is called to the size of the hospital as compared with the number of deliveries. In the category of 1-25 deliveries, the size ranges from one to 100 beds. The second group varies from eight to 100 beds. All classes show a wide variation in the gross capacity of the institutions.

HOSPITALS ACCORDING TO DELIVERIES

		No. of Beds		
No.	Deliveries	Average	Largest	Smallest
25	1-25	15.5	100	1
19	26-50	25.6	100	8
31	51-100	33.6	115	5
24	101-150	39.1	100	11
58	151-350	78.7	242	22
68	351-1000	158.6	465	60
15	1000 +	484.7	3300	117

We feel that these findings justify our system of graduated requirements based on the volume of obstetrical work.

The defects in medical facilities found in the first survey have been summarized, and the chief findings will be published with the paper. Among the significant findings it is noted that 85.7 per cent of the hospitals did not require

physical examinations of their personnel. Many larger hospitals examined the student nurses but not the staff nurses and other personnel. Very few hospitals required a bill of good health from their food handlers. Recently a simple form for recording physical examinations has been adopted and is now furnished on request by the Health Department. This has led to widespread use in a majority of hospitals. Superintendents have adopted this practice for the entire hospital personnel as a sound method of preventive medicine.

Obstetrical records were deficient or totally lacking in 48 per cent of the cases. This was true in greater numbers among the smaller hospitals, but 20 per cent of the hospitals having over 200 beds also had this deficiency. Craniotomy instruments were lacking in 36.08 per cent of the cases. Instances were reported of Caesarian section being performed to deliver dead babies and of mutilation of mothers where a cranoclast was not available. Inadequate segregation of obstetrical patients was present in 11.25 per cent of the hospitals. The lack of any type of incubator or heated bassinet was a finding in 21.31 per cent of the institutions. Infant clothing was brought to the hospital by parents in 20.07 per cent of the instances. This was chiefly true in the smaller divisions, where over 50 per cent did not furnish the baby clothes. Some very bad situations in this regard were found. One hospital with over 300 deliveries per year had all parents bring each baby's clothes to the hospital and return for them when they were soiled. One hospital had a cardboard box under each bassinet, and the soiled diapers were allowed to accumulate until the family called to take them home and launder them. Child visitors were permitted in 21.78 per cent of the hospitals. This defect was chiefly lacking in the larger hospitals. In 16.07 per cent, pasteurized milk was not used. Deliveries were done in the operating room in 12.41 per cent. This was primarily found in hospitals under 25 beds, but occurred in 6.16 per cent of hospitals from 51 to 100 beds. In 8.63 per cent of the institutions, facilities for infusion and transfusion were lacking. In a small number of hospitals a nursery was not provided, and babies were shuttled back and forth from one place to another. In some, they were kept in the operating room, the sterilizing room, and even in the utility room.

The greatest difficulty seemed to be in the small industrial hospital. In these localities the hospital is maintained chiefly by a contract practice with a mining concern or other industry. The building of the hospital was originally determined by the need for facilities to care for accident cases. Consequently most of the patients were chronic injuries and infections. The obstetric service has been more or less forced upon the hospital, and there are no facilities for it. Many hospitals said they did not want it. Fortunately, the number of births in these institutions is generally small, but also the number of disasters seems small to them so that they feel their results are good. Another feature rather common in this group is the presence of untrained nurses. Often they have had no formal training whatever and are local girls who have been "trained" by the physician owning the hospital. One 40-bed hospital had only one registered nurse.

On the whole, the maternity facilities in Illinois hospitals compared very well with those found in other states. The serious defects most generally found involved plumbing and sanitation. Due to the fact that Illinois does not have a standard plumbing code, plumbing requirements vary from city to city and in many places are controlled very little or not at all. Consequently, the section of the maternity regulations concerned with plumbing constitute a code for all hospitals. Under this section, plumbing in all parts of a general hospital is involved. Much obsolete equipment and many faulty fixtures, cross-connections, defective water and sewage systems were found. Hospitals were quick to realize the seriousness of these defects, and in a majority of cases repairs were immediately started. In many instances these involved a considerable outlay of money on the part of the hospital. Fortunately, most of these installations were made prior to the present war effort, when equipment was available. Such is not now the case, and new hospitals are being delayed in the process of construction, due to difficulties in securing fixtures and supplies.

Subsequent inspections have shown us many defective situations not previously noted, which

are not included in this report. As the program progressed, our efficiency increased, and hospitals in general cooperated very well. The attitude of the Department from the beginning has been one of persuasive control rather than of legal coercion and the aim has been to give advice and assistance in the correction of defects and thus enable hospitals to become eligible for licensure, rather than to close hospitals which do not meet the requirements. In a few instances procrastination and defiance have had to be met with a firm stand, but in only one instance has it been necessary to resort to the courts. Renewal of licenses the second year was based upon evidence of cooperation and a demonstration of an effort being made to remove defects. At no time have more than five per cent of the hospitals had their licenses withheld because of persistent defects.

After the initial survey it was noted that much could be accomplished by improvement of nursing techniques. Consequently consultant maternity nurses were added to the field staff. They were assigned to visiting maternity divisions in hospitals, acting as consultants and not as inspectors. By actually observing the nurses at work they are able to recommend changes in techniques that are time-saving and that provide greater safety to mothers and babies. On invitation they lecture to nurses' groups. Particular attention is given to the premature infant. Shortly after January of this year an outline of desirable nursing procedures was published and distributed to nurses on request. One thousand seven hundred eighty-eight copies of this manual have already been placed in the hands of nurses.

The past two years have seen quite a change in the hospital picture in Illinois. As in other states, there has been a decided trend toward hospitalization of all maternity patients. In 1935, 56.7 per cent of all births occurred in hospitals. For the year just closed (1941) the figure has risen to an all-time high of 80.5 per cent. The next slide shows how this trend has been related to the total number of births in the state as a whole and in the downstate area as compared with Chicago.

HOSPITAL AND HOME BIRTHS

Year	Total Births	State		Downstate		Chicago	
		Hosp.	Home	Hosp.	Home	Hosp.	Home
1935	111,884	56.7	43.3	41.9	58.1	75.3	24.7
1936	112,167	60.7	39.3	46.7	53.3	79.8	20.2
1937	115,282	65.5	34.5	51.3	48.7	84.1	15.9
1938	122,562	67.0	33.0	43.4	44.6	82.7	17.3
1939	117,841	69.5	30.5	58.6	41.4	84.8	15.2
1940	123,198	73.7	26.3	63.5	36.5	88.0	12.0
1941	134,451	80.5	19.5				

Crowding in hospitals was particularly noticeable in 1940. One result has been the stimulation of building programs — additions to old hospitals and the building of new ones. It soon became apparent that to save time and prevent mistakes in construction, approval of plans and specifications for hospitals would be necessary. Accordingly, it is now required that a copy of plans and specifications befiled at Springfield before construction begins. Consultation is supplied to hospital boards, superintendents and architects without charge. During the last two years ten new hospitals have been constructed and ten remodeling programs have been completed. Twenty-three building programs are now under construction, including four new hospital buildings. Five more programs are planned for the future.

I would like to emphasize that in spite of this building activity, hospital facilities for obstetrics in downstate Illinois are far from being adequate. Since 1935 the number of hospital deliveries in the area outside Chicago has more than doubled. There were 26,197 deliveries in 1935, and in 1941 there were 54,903. In the two-year period it from 1935 to 1941 there was an increase of 35.8 per cent. The problem is acute in some places, especially defense areas. That it will become more acute is shown by the fact that there were 24 per cent more hospital births in Illinois during January, February, and March of this year than in the same period last year. This latter increase is equally evident in Chicago and in the downstate area. The war tends to increase hospitalization, because of the scarcity of doctors and the increased ability of people to pay for hospital care. Careful consideration must be given to this situation by both hospital and governmental authorities. As is inevitably the case, the areas of greatest need both medically and economically have not participated to any appreciable extent in the recent building

MATERNITY HOSPITAL OPERATIONS

ABORTIONS—before the 20th week of pregnancy Total _____
Number of operative interferences _____
ECTOPIC PREGNANCIES—before 20th week _____
after 20th week _____
MOTHERS DELIVERED (exclusive of above) Total _____
Without operative interference _____
With operative interference _____
(Should not include episiotomy)

CLASSIFICATION OF OPERATIVE INTERFERENCE

Induction
Rupture of membranes _____
Bag or other foreign body _____
Cutting or stretching cervix _____
Forceps deliveries
High _____
Mid _____
Low _____
Cesarean Sections
Low cervical _____
Classical _____
Porro _____
Portes _____
Vaginal _____
Breech presentations
Spontaneous _____
With interference _____
Version and Extractions
With indications _____
Potter Elective _____
Embryotomy (Craniotomy) _____
Infections (other than puerperal sepsis) _____
Morbidity* _____
Puerperal septicemia** _____
Toxemias
With convulsions _____
Without convulsions _____
Hemorrhages
Antepartum _____
Intrapartum _____
Give causes for the above two _____
Postpartum (within 24 hrs.) _____
Puerperal (after 1st 24 hrs.) _____
Hypertension _____
Hyperemesis _____
Contagious diseases _____
specify _____
No. Blood Transfusions _____

*A temperature of 100.4 degrees Fahrenheit (38 degrees Centigrade) occuring on any two of the first ten days postpartum, exclusive of the first twenty-four hours, is febrile morbidity. The temperature to be taken by mouth by a standard technic at least four times daily.

**An infection arising from or localizing in the female genitalia in association with pregnancy, its termination or the puerperium, and producing the systemic symptoms and findings of sepsis.

programs. The counties of highest mortality rates correspond to those with the least number of hospital beds.

Again following the lead of our colleagues in Chicago, we revised the report form that is sent monthly to the Department from each hospital. In the revision, a section was devoted to the reporting of clinical procedures in obstetrics. We have reproduced this form on the following slide.

The first reports were received for the month of January, 1941. The Chicago hospitals were accustomed to using a similar form, so no confusion was encountered there, but outside Chicago it took some time to accustom personnel to its use. We now have the first year's results to report. We realize that the first year is not entirely accurate, but the second will be better and several years will be needed before many conclusions can be reached. Nevertheless, we present these figures to show what information can be obtained and the wealth of information that is being tabulated on a state-wide basis. We are not aware of this information being available to this extent, in any other state.

The next slide shows some of the significant data obtained for 1941. The particular advantage of these statistics is the averages that they represent. The often-heard argument in respect to clinical statistics is that they are gathered by a specialized group under ideal circumstances, and cannot apply to the average hospital. That charge cannot be made concerning these rates. They are gleaned from clinical obstetrics in hospitals of all sizes and descriptions, and represent a great variance in ability and training of the attending physicians. Hence we can say that they are truly averages and can be used as a guide to measure the standard of work in individual hospitals. Yearly figures are being prepared for each hospital, in order that the staff may see how that hospital compares with state averages. It is to be noted that there are now more hospital deliveries in downstate Illinois than in Chicago. In 1940 the downstate area surged ahead, and it has since maintained that lead.

MATERNITY HOSPITAL ACTIVITIES

	Total		Downstate		Chicago	
	No.	%	No.	%	No.	%
MOTHERS DELIVERED	107,426	100.00	54,440	50.68	52,986	49.32
Without operative interference (Includes episiotomy)	78,685	73.22	40,474	74.34	38,211	72.11
With operative interference	28,735	26.80	13,942	25.68	14,793	27.92
INDUCTION: Rupture of membranes	3,105	2.89	1,584	2.91	1,521	2.87
Bag or other foreign body	269	.25	122	.22	147	.28
Cutting or stretching cervix	274	.25	139	.25	135	.25
FORCEPS DELIVERIES: Total	21,132	19.68	10,247	18.82	10,885	20.54
High	444	.40	390	.71	54	.10
Mid	2,199	2.04	1,321	2.43	878	1.66
Low	18,489	17.23	8,536	15.68	9,953	18.78
CAESARIAN SECTIONS	3,334	3.10	1,648	3.02	1,686	3.18
BREECH PRESENTATIONS	3,970	3.69	2,057	3.78	1,913	3.61
VERSIONS AND EXTRACTIONS	639	.59	376	.69	263	.49
TOXEMIAS (with convulsions)	321	.30	185	.34	136	.26
NO. OF BLOOD TRANSFUSIONS	1,895	1.77	632	1.16	1,263	2.38

ANALYSIS OF DEFECTS FOUND IN HOSPITALS

No. of Deliveries No. of Hospitals in Each Division	1-25 25	26-50 20	51-100 30	101-150 24	151-350 58	351-1000 68	1000 15	Total 240
Physical examinations of personnel deficient	88%	85%	85%	80%	80%	90%	92%	85.71%
OB records lacking or incomplete	88	45	69	64	27	19.5	26	48.35
Craniotomy instruments not available	52	45	42	44	39	24	6.6	36.08
Visitors under 16 permitted	32	35	23	48	6.8	7.5	—	21.78
No incubator or heated bed	60	30	29.7	28	—	1.5	—	21.31
Infant clothing not furnished by hospital	56	55	19.8	8	1.7	—	—	20.07
Mother's temperature not taken four times daily	24	25	19.8	20	12	9	13	17.54
Pasteurized milk not used	32	35	13	28	3	1.5	—	16.07
Tracheal catheters not available	36	15	26	20	12	3	—	16.00
Atmospheric thermometers not present	8	5	13	12	20	28.5	19.8	15.78
Deliveries in operating room	28	35	13	8	3	—	—	12.42
Inadequate segregation	NR	NR	NR	NR	29	15	—	11.25
Unqualified OB supervisor	NR	NR	NR	NR	NR	19.5	46	8.33
Facilities for infusion and transfusion not readily available	16	5	9.9	4	15	10.5	—	8.63
Identification of infants inadequate	36	15	—	4	1.7	—	—	8.10
Sphygmomanometer not supplied	20	15	9.9	4	1.7	1.5	—	7.45
Infected cases in clean OB division	4	—	3.3	—	6.8	18	19.8	7.41
No nursery	24	20	3.3	—	—	—	—	6.75
Separation of cribs inadequate	8	5	6.6	4	3	4.5	13	6.30
Window area deficient	12	10	6.6	4	1.7	7.5	—	5.97
Oxygen not available	12	25	3.3	—	—	—	—	5.75
Baby's temperature not taken twice daily	12	5	13	—	—	3	6.6	5.65
Delivery table not provided	8	10	3.3	12	3	—	—	5.18
Laboratory facilities lacking	16	5	6.6	4	—	—	—	4.51
No separate OB nursing personnel	NR	NR	NR	NR	13.6	3	—	4.13
R.N. not on duty at all times	16	—	3.3	4	5	—	—	4.04
Infant formulae not prepared by R.N.	8	—	3.3	4	1.7	3	6.6	3.80
Visitors in contact with infants	12	—	3.3	8	—	—	—	3.33
Sterile uterine pack not available	12	5	3.3	—	—	—	—	2.90
OB beds not designated	8	5	6.6	—	—	—	—	2.80
Attendants with respiratory diseases permitted	—	5	3.3	4	—	—	—	1.75
Student nurses not under supervision	—	—	—	—	—	4.5	6.6	1.42
Unwashable walls	4	5	—	—	—	—	—	1.30
Labor room lacking	NR	NR	NR	NR	NR	4.5	—	1.27
Infant mattresses not covered	4	—	3.3	—	—	—	—	1.04
Patients under analgesia unattended	—	5	—	—	—	—	—	.42

NR — Not Required.

An examination of the rates for hospitals with various volumes of obstetrical work is more revealing than the comparison of gross figures for Chicago and downstate areas. For the group of hospitals having over 1,000 deliveries per year, there now being 19 of such hospitals in Chicago and nine in the downstate areas, the figures compare fairly well. This is likewise true in the group having 351 to 1,000 births. When we come to the group with 151 to 350 deliveries (there are 13 of such hospitals in Chicago and 41 downstate) there are very notable differences in some categories. In the Chicago group, 80.8 per cent of deliveries were non-operative, while the downstate group had 75.1 per cent. Infant mortality was 11.8 per thousand deliveries in the Chicago hospitals, as compared with 22.7 per thousand downstate. Maternal mortality was 1.3 per thousand in the former, and 3.0 per thousand in the latter. Stillbirths were essentially the same, 24.3 per thousand as compared with 24.8 per thousand. Caesarian sections occurred in 2.1 per cent of cases in Chicago and 3.1 per cent downstate. Postpartum hemorrhages were one-third greater downstate, and toxemias with convulsions were twice as frequent in the downstate area as compared with Chicago. In this latter category the downstate figures were higher in all divisions, except in hospitals with over 1,000 deliveries. This figure was greater because it included Cook County Hospital, where most neglected cases are received. As stated previously, we feel that these figures indicate only trends and a rough view of the situation, particularly in the downstate areas, because the filing of these reports is still a relatively new task for hospital personnel. Also, the lack of very many organized staffs still is responsible for the generally poor obstetric records.

The Illinois maternity hospital program has come a long way in the short period of its existence. Obviously, in a well-rounded program the first step is concerned with the matter of physical facilities. In this connection much has been accomplished. The elimination of sanitary defects alone is a major accomplishment. At the same time there has been inaugurated a service directed toward improving the efficiency of the nursing personnel. While much remains to be done, the important ground-work has been laid, which will permit consultation and service to all hospitals in the state. The ultimate goal of a good maternity program is good hospital facilities, good nursing personnel, and well-organized hospital staffs working in close harmony with the hospital authorities. We are glad to note that the impetus of this program has stimulated the formation of many staff organizations in hospitals not previously organized. This brings about closer attention to morbidities and mortalities and opportunities for consultation service and advancement in research. We hope that the day is not too far distant when all hospitals will have organized staffs, working together for the promotion of scientific knowledge and concurrently for the benefit of the patient.

I would like to point out that the findings reported in our survey were those found on initial inspections. Our subsequent inspections have shown considerable improvement, and a comparison with the original findings would bring out this improvement. We were not prepared to make this comparison at this time. Most of the original defects have been eliminated.

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PSYCHOTHERAPEUTIC ASPECTS OF STATE HOSPITAL PSYCHIATRY

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As the enthusiasm for shock therapy wanes, the psychiatrist is in a better position to re-evaluate his therapeutic methods and research emphasis. The writer believes that psychotherapy of the psychotic individual, both in its intensive form of psychoanalysis and its less intensive forms having more limited goals, is more and more proving its worth. However, it has yet to come into its own as a formal and emphasized part of the state hospital treatment program.

Psychotherapeutic methods have the advantage over other healing methods in that they are at once a way of research into the etiology of the functional psychoses, as well as a curative means.

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Just so, psychoanalysis of the neurotic individ-psychotic. With the opening of the Community Clinics in Illinois, and of similar clinics elsewhere, the research agent of Freud and others in the study of the etiology of neurosis. Just as the psychoanalysts, the child psychiatrists and others are expanding knowledge of the etiology of neurosis by treating and studying the parents as well as the patients, so the state institutions may also be in the position to study etiology further by the study of the parents of the psychotic. With the opening of the Community Clinics in Illinois, and of similar clinics elsewhere, and with the establishment of family placement programs, the parents of the patient will be treated and studied more and more. It is true that parents were regularly seen by state hospital doctors before, but because of the emphasis of the institution and the pressure of work, the relationships perforce, had to be very limited. But the Community Clinics will need to spend more time with the parents, helping them to resolve their ambivalences about taking or keeping in the home the improved or recovering patients. They will strive to bring about changes in the basic attitudes of the parents toward the pre-psychotic or psychotic* patient which will benefit him. The day may come when collaborative therapy by psychiatrists such as was recently reported by Szurek, Johnson, and Falstein,[1] for therapy of parents and children, can also be done in the Community Clinics with parents and patients. Such therapy will yield much material on the interpersonal attitudes between the patient and the members of his family.

I stress the research side of such psychotherapy because it has become increasingly obvious that the environment of the psychotic must be studied in order to expand our knowledge about the etiology of the functional psychoses. The students of constitution are at a loss as to what is cause and what effect, and as to how changes take place. Statistics do not tell us how certain disturbances are communicated. The writer was forceably impressed at recent excellent symposia given at the Illinois Neuro-psychiatric Institute that the fields related to psychiatry — endocrinology, neuropathology, and biochemistry, by their own admission, do not have the means whereby the problems of etiology may be studied. If hereditary and congenital factors are so inaccessible, the psychotherapist can get at the environmental influences through his therapy of the patient and his family.

The cases of psychotherapeutic interest which will be given here are, except for one example, brief efforts. The goals were always limited. They are given as examples of everyday possibilities in the state hospital and the outpatient clinic.

While employed in an institution, the writer had occasion to admit a 19-year-old boy, later diagnosed as paranoid, schizophrenia. As soon as the patient passed the locked doors, he became acutely resistive. The father who brought his son, took the doctor aside and told him that he had brought the patient to the hospital by saying he was taking him on a visit. The boy refused to co-operate, saying that he would not stay if his father left the building. The therapist asked the patient if he would not accompany him. The youth suddenly lunged with his fist at the psychiatrist's abdomen. The doctor started and put his arms down to cover up. At this time the boy stopped short of delivering the blow and laughed maliciously. Asking everyone to leave, the therapist sat down beside the boy and spoke to him. The substance of the doctor's remarks went something like this: The patient was told that the psychiatrist could understand that he might be very angry with the father for having brought him to the institution by a hoax. The therapist went on to say he could understand the patient's feeling that it might be well to distrust everyone. Other people felt that way at times. If one became very resentful at such times, one might even want to strike another, as he had wished to hit the doctor. At this point the very surly look on the patient's face disappeared and he hung his head. The patient was then led away and no further trouble developed that day, although he often manifested irritable periods after.

By putting himself in the patient's place, the doctor understood that while the boy had seen through the father's story about the trip, his dependence on his father forbade his refusal to accompany him. He also saw that the boy's

1. Szurek, Stanislaus, Johnson, Adelaide, and Falstein, Eugene: Collaborative Psychiatric Therapy of Parent-Child Problems. Amer. Jour. Orthopsychiatry 12:511-516 (1942).

hostility, which was already great, although incapable of direct expression was markedly enhanced by the fact that the father lied to him and by the feelings of helpless impotence over being unable to resist the hoax. The patient felt that the therapist accepted some of his attitudes and acts, if even for a moment, and was able to feel more directly some of the hostility to which the doctor referred. When this brought some relief, the patient was able to co-operate. The persistence of some guilt over his attempt to strike the doctor, which probably was not entirely dealt with by the therapist, may, of course, also have played a role in the disappearance of the patient's hostility and rebelliousness.

Cases like the following will probably come to the Community Clinics: A woman of 43 had been diagnosed paranoid schizophrenia for five years. She had gone to institutions three times and received two courses of metrazol. Between visits to hospitals she was quite withdrawn and hallucinated. In the last year, whenever the patient became disturbed and unco-operative and showed her hostilities and delusions, she was given shock therapy at home. This had succeeded in dispelling the acute disturbance. Several such periods were thus managed. The therapist was called upon to repeat the shock therapy on such an occasion. Immediately after the convulsion, and while the patient was disorientated, she gave vent to many erotic fantasies. As she recovered her orientation she warmly clutched the doctor's arm and spoke affectionately to him. Shortly thereafter she was again quite withdrawn. The mother of the patient, the only parent living, became quite disturbed about continuing this treatment. She finally decided to discontinue metrazol. The mother desired some other treatment and psychotherapy was eventually suggested on the basis that it might prevent the recurrence of the acute disturbance and even help the patient's general condition to some extent. It was made clear to the mother that cure could not be expected. The patient was seen twice a week for eighteen months. Whereas the woman had been acutely disturbed four or five times each of the previous two years, after psychotherapy began she never manifested such episodes.

The patient's productions during the therapy were most interesting. For months she spoke (but only when encouraged to do so) with extreme repugnance, of fantasies, of fellatio, which haunted her despite every effort to escape them. When these compulsive thoughts and the hostilities which lay back of them were accepted, many guilt feelings and many ideas of self-depreciation were elicited. Eventually, she spoke indirectly and then directly of her great jealousy of her married sister, and then of her hostility to her mother who demanded unflinching dependence. While the patient was able to admit the validity of interpretations, she was rarely able to feel, really, any of the impulses and emotions which were involved in her comments. The interpretations were chiefly to reveal to the patient the feelings which she was *directing to the therapist* and which she revealed only by her fragmentary stories about the actions of other persons, her responses to these persons, etc. In the process it was of course possible to speak to the patient of emotional reactions which were also directed to others. The psychosis continued unabated except that at the end of the first year the hallucinations seemed to have stopped for awhile.

It became obvious that the mother had instituted psychotherapy not only because of her guilt with regard to her daughter's problems, but because she had hoped that the patient would be brought to accept complete dependence upon her. Since this did not occur, the mother felt free to project the responsibility for the independence and hostility of the patient on the doctor. By angrily blaming him for the patient's recalcitrance, in frequent telephone calls during which the doctor calmly listened to her without hostility, she obtained some relief from her own hostile tensions. At the end of a year and a half, when the doctor became a little annoyed with the mother, this parent became unusually insistent, and the patient was able to indicate that she could not bear her mother's demands and wished to be placed elsewhere. The patient and the doctor would have preferred the home of a relative but only a state hospital, which the mother reluctantly accepted, was available. At about this time the patient developed a well-established surgical condition from which she died in a general hospital.

While it is impossible to go into the detailed facts and speculations with regard to this case, here, we can see that the limited goal of preventing acute disturbance which had necessitated either institutionalization or shock therapy, was achieved until the end. The therapist felt that the last placement was of a different sort, incidental to the improvement of the patient. In the Community Clinics it will be discovered that as psychotic or prepsychotic patients improve and become more independent, placement outside of a home may have to be utilized to relieve the parents at this point and help the patient further. Sometimes, although the psychotic patient is making an adjustment at home, it is necessary to remove him to prevent another member of the family from breaking down.

Because of the extremes of attitude in the mother, and the intense preoccupations of the patient, certain factors such as great demands of the mother for the patient's dependence on her, the dependent needs of the patient, her hostilities and her jealousies seemed rather clear to the therapist and supplied much food for thought. The role of the therapist in this case was probably to give both patient and mother some relief from their mutual hostilities in this situation of tense, hostile dependence. By becoming somewhat dependent on the doctor, the patient could gain some independence from her mother and no longer needed to express her resistiveness in acute disturbance when the mother became more insistent or the tensions mounted.

A boy of 18 was brought into the hospital in a state of extreme schizophrenic excitement. The picture was typical, accompanied by hyperthermia, etc. The fright was extreme, and the patient spoke of people who were after him in the room. Reading the history revealed that the patient had recently been masturbating frequently, to the acute distress of his parents. One week before the acute excitement developed the patient had been circumcized because of the masturbation, which the parents had told the patient would make him ill. Considering the possible connection of the circumcision to the extreme excitement, the doctor spoke of this matter to the boy. At this time the patient, whose eyes were glazed, was being held in bed by several attendants, because of his violence. The boy had been hallucinating aloud and it had been impossible to establish contact with him. The doctor wondered if the youth had not felt that the circumcision indicated that his parents would not tolerate any of his sexual feelings. The therapist also questioned whether the boy did not feel that this doctor and the doctor who had circumcised him were going to do something very terrible to him because of his masturbation. The effect on the boy was immediate. He stopped talking and some look of recognition came into his face and eyes for the first time in days. This change lasted a few moments. Then the excitement was resumed, although somewhat abated.

Since then the writer has speculated on the possible use of intensive psychotherapy, even in such cases. Even though these patients are greatly excited, it may be that they are accessible. While it is not often that the connection between the acute excitement and some immediately antecedent events is so easily discoverable as it seemed in this case, it is likely that clues to the emotional turmoil of the patient can be gained from his productions. Perhaps it can be taken as axiomatic that underneath the great excitement and intense anxiety, there is always an intense hostility and guilt bursting for expression but only producing marked conflict.

While institutional psychiatrists have learned that the patient can be sustained physically during extreme excitement by maintaining the salts and nutriments via the parenteral routes, they have no method of attack on the duration of the excited period except for shock therapy. But in some of these cases there is great risk connected with the use of shock. It might be interesting for a skilled therapist to attempt intensive psychotherapy in such cases while the patient is being sustained physically. Cases of chronically disturbed schizophrenia might well deserve such psychotherapy also, before lobotomy.

I wish to emphasize that it is necessary to deal with the psychotic individual as if he were primarily a human being and not an organism manifesting bizarre feelings and thinking, before

it is possible to do psychotherapy with these individuals. This involved the capacity for identifying with the patient. Such identification will occur if the therapist is not too threatened by what he senses to be the underlying feelings of the patient. The situations which have produced some immediate change in the psychotic's behavior, particularly those which have resulted in hostile outbursts or disturbances, are discoverable, if the doctor's own problems are not so stirred by these same situations, that he is blinded to them. These antecedent events may be learned from clues which the patient gives himself or from reports of persons living with the patient, whether they be parents or hospital employees. It may even be that the insecurities of the psychiatrist drive him to deny the role of all interpersonal relationships as causal forces in the production and change of the psychotic disturbance. Although he is thus left with little to proceed on except vagaries about etiology involving theories of heredity and preformation-like hypotheses, he is also relieved of the responsibility of studying the patient's environment, the associated behavior, and the possibilities of modifying either environment or patient.

Over-identification, too, may occur and interfere with therapy. Because of his own problems the therapist may, by over-identification, encourage the patient to become more dependent or more rebellious in his behavior and feelings without giving him relief.

As an illustration of how the problems of the therapist may interfere with the analysis and treatment in a particular situation, I should like to cite the case reported by Dr. Maxwell Gitelson.[1] The patient was a woman who was employed as a menial among professionals. She had been trained in this very profession but had given it up so that her husband might achieve in the same field. Dr. Gitelson sensed that intense envy and associated hostility had been generated by this situation toward the other professionals and the husband. A therapist who himself was suffering from frustrated but great ambitions and who dealt with this unhappy situation by developing the conviction that he was quite satisfied with his lot, might have passed over this woman's envy and the blow to her self-esteem simply because the picture she presented was schizophrenia.

No discussion of psychotherapy in the state institution would be complete without mention of the therapist's role with employees. This becomes extremely important where, as is true in our state, the wages, satisfactions, freedom, and security of the attendants, the bulk of the employees, are such as to attract many insecure individuals. When the attendant comes to the psychiatrist with his irritations or anxieties about a situation or patient, if the therapist can give the employee some relief by accepting the person's hostility or anxiety with calmness and without retaliating, then the patients under the care of that employee will gain greater tolerance and freedom of expression at the hands of that attendant. If a superior medical officer is secure enough, by reason of his training and personality, to be consistently firm, when necessary, without making the insecure employees feel that they are unappreciated or disliked or that their hostility is being responded to in kind, that experience can be psychotherapeutic despite the fact that discipline or training is taking place. In the same way, a secure foster parent is able to make training situations a therapeutic process for the insecure child who has previously, in similar situations, experienced hostile, retaliatory attitudes at the hands of the parent.

Group psychotherapy has been utilized in Illinois state hospitals. There *are* methods for giving the members of a group as well as the isolated individual the feeling that their hostilities and anxieties can be accepted calmly and tolerantly by the therapist. However, the measure of acceptance which can be gained by an individual in a group is usually reduced by the rivalries and unfavorable self-comparisons which are felt in this same group. But the intense jealously which may be stirred, is only one of the special problems in this work. Some of the disadvantages of this approach may be partially offset by some measure of public acceptance and social recognition which can exist for some of the patients in these situations. Especially because of the economy of time attending this approach, the research of Schilder and others in this field, including Low and Klapman in this state, might well be expanded.

1. Gitelson, Maxwell: The Critical Moment in Psychotherapy. Arch. of Neurology and Psychiatry. 48:1012 (1942).

I believe that our state hospital doctors can engage in more psychotherapy, especially in that type having more limited goals. As a means of dealing with newly-developed, disturbed behavior, in cases of refusal to eat, etc., in the psychotic, psychotherapy may be an excellent substitute for tub, pack- or shock treatment. Certainly, in the case of the patient who has become acutely disturbed, for the doctor to verbalize for this patient, his hostilities and annoyance and the implications of his destructive acts and for the physician to accept them in the therapeutic relationship, may not only bring some changes in the patient at the moment, but may also be valuable so far as future therapeutic possibilities are concerned. As the therapist gains some success, he will be more secure in his effort. More difficult psychotherapy may be carried out under the supervision of analytcally-trained psychiatrists. The psychiatrist with more advanced training might attempt to treat acute and chronic excitements more intensively with the limited goal of terminating the excitement. In the Community Clinic the psychiatrist will now treat pre-psychotic individuals. The more labile situation and the greater possibilities in these individuals are likely to encourage the therapist in other therapy situations. The interpersonal relationships and processes are likely to stand out more definitely in the non-stratified, unconsolidated situations involving the pre-psychotic patient and his family.

Psychotherapy, like all therapy, springs from the interest of the doctor in the patient, but is made possible by the therapist's sense of security. It is not just a condescending or even friendly pat on the back as it was described by one individual to whom this paper was mentioned. No matter how brief its duration, it consists in a real and new emotional relationship in which some discharge of the patient's affect occurs with its attendant relief or gratification followed by some increase in the patient's relaxation, security and independence. Before it is possible for the patient to bring forward many unacceptable feelings, the therapist must be secure enough to calmly point out the unacceptable reactions of the patient to himself. In the therapeutic situation, these reactions are indicated in all the volunteered stories which the patient tells of her responses to others, and theirs to her, or in anything which spontaneously occurs, since the patient is always reacting to the therapist. Only by understanding all the spontaneous comments of the patient as having reference to the therapist does the doctor understand his therapeutic process. Only as the patient gives expression to the immediate feelings which press forward in relation to the therapist is he really able to gain greater freedom of emotional expression and to achieve new emotional responses of a more secure sort. The writer feels this is true whether the therapy be as intensive as psychoanalysis or as brief as one interview. As this therapeutic process continues it can reduce the patient's frustrations (with its attendant hostility and unhappiness), distrusts, and dependence, to bring general security. But the patient must experience a different emotional relationship than has existed for him before, in order for reconditioning or change of his feelings and attitudes to take place. This means that the therapist must really be a more tolerant, less frustrating, and less anxious and more consistent person than were the significant persons in the patient's past.

DISCUSSION

Charles W. Read, M. D. (Elgin): I have read and listened again to the essayist's enlightened discussion of this subject with much pleasure. I have been impressed with the fact that his discussion brings out three points in the method of examination.

The first might be termed listening with patience to the patient's remarks, no matter how meagre these may be; questioning the patient with carefulness, with technical precision if that is possible and with suavity. So often we question the patient in a hurry and the patient is conscious of that hurry and is antagonized by it as we ourselves would be in a similar situation.

And taking it all, — whatever the patient may say, — with tolerance, tolerance implying understanding, implying that the therapist is not blinded (as the doctor has said) by his own failures in adjustment, by the effect of his own life experience.

The patient is always responding to the therapist. He has always the therapist is mind as he converses with him, as he is questioned, — a very important thing, and this thought can be carried further to the stuporous or excited patient, as the essayist has indicated. We never know, presuming the person is not in coma or stupor, what he may obtain from what is said about him, from what happens in the environment, or what is said to him. We so often forget these things in our hurry to get something done.

I would like to enlarge the essayist's exposition of the apparent relationship in the therapeutic situation. I wonder if in selected cases it might not be that two patients could be treated as a group, together rather than singly, at times, anyhow, for the resolution of their mutual hostilities. We use the term "hostility" very freely. I think that we perhaps overdo the matter. We get caught in the trap of our own symbolism when we use this word to express what is perhaps a resentment, something that doesn't go into any aggressive behavior such as is ordinarily connotated by "hostility."

In one small sentence the doctor has referred to the human being as something quite different from the human organism; there is a nuance of expression there that rather intrigues me, — so much so that I ask him how he would define "a human being".

The use of psychotherapy versus packs and electric shock is an important thing for us to consider. We have so little time to spend upon the individual patient. We want to get things done in a hurry, — so we say "Give them electric shock; let's see what happens." We haven't time to sit down and talk to this resentful, semi-stuporous person. We do get in to contact with them quite frequently by the use of sodium amytal, which is a very useful therapeutic adjunct at times; but when we put one of these resentful persons into a pack, I wonder just what happens aside from certain physiological responses. Never having been there, I don't know!

Then one more point. We have so few physicians, psychiatrists, to take care of so many newly-admitted patients and to discuss with them their difficulties, to listen to their complaints, even, that it is rather discouraging to talk about psychotherapy as Dr. Perkins has presented it. Yet it should be our goal to sit and listen with patience, to question with care and precision and a lack of self-induced animosity, and always to judge with understanding.

George Perkins, M. D. (Chicago): I want to thank Dr. Read both for this comment and for some suggestions which he made before I read this paper. In answer to the question as to what I meant by the term "human being" in this paper, I wish to say this: I meant an individual who has feelings such as our own and who reacts in situations as we do, except that there are some differences in *quantitative* extreme. If the psychotic is such a human being, he becomes a person whom we can understand and whose feelings are like ours, despite behavior and verbal responses which appear irrelevant and bizarre.

Hubby: "Afraid I have some very bad news for you dear. We lost our cook today."

Wife: "Why, how in the world did you find out?"

Hubby: "I hired her at the factory."

A girl is sometimes like the ocean — she may look green, but she can get awfully rough.

DIAPHRAGMATIC HERNIA: ITS INCIDENCE AND TREATMENT

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SPRINGFIELD

This paper is presented with two thoughts in mind — to stress the relative frequency of diaphragmatic hernia and to illustrate its conservative and radical treatment by presenting the management of two cases.

It has not been very many years since diaphragmatic hernia was classed as a rare affliction. The increasing frequency of its "occurrence" may be considered a tribute only to the mounting skill of the roentgenologist, since its diagnosis in any other way short of exploratory laparotomy is largely pure inspiration. Harrington[1] reported that the diagnosis of diaphragmatic hernia at the Mayo Clinic had been twenty times more common in the past fourteen years than it had in the previous eighteen. Other observers[2,3] have reported a similar phenomenon. Undoubtedly the stress laid upon the routine search for such herniae in recent years by the roentgenologist has been the means of bringing this about. The patient is almost always referred with a tentative diagnosis that does not even suggest diaphragmatic pathology.

There are undoubtedly many asymptomatic herniae, especially in the aged,[4] but a review of those papers in which the total number of routine gastrointestinal examinations are quoted reveals a surprising incidence of herniae occurring in patients presumably referred because of clinical symptoms. (Table I.)

It is probable, that under conditions of general practise, symptoms sufficient to bring patients to the roentgenologist for gastrointestinal examination will lead to the discovery of diaphragmatic hernia in roughly 2 out of 100 patients.

Classification. — A diaphragmatic hernia may be defined as the presence of abdominal viscera in the thoracic cavity and passing through abnormal openings in the diaphragm. Such openings may be caused by congenital structural deficiencies in the diaphragm, and occasionally

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the esophagus, or they may be caused by traumatic rupture or inflammatory necrosis of the normal diaphragm.

In its embryonic evolution,[1],[18] the diaphragm, and structures both above and below it, are formed by and pass through such a confusing and complicated course that possible defects of development can easily be visualized. Much of the diaphragm has its origin in cervical myotomes, which implies a not inconsiderable descent to its final position. When the ultimate fusion of elements derived from at least three embryologic structures are co-ordinated and timed with the descent and rotation of the stomach and colon, it is not difficult to understand the occurrence of diaphragmatic hernia. It becomes more difficult to understand why there are not more such herniae!

Table 1.

The incidence of diaphragmatic hernia occurring in consecutive routine gastrointestinal roentgenological examinations as reported by various observers.

Author and date	Number examined	Number Hernia	Pct. of Hernia
Aime' and Solomon[5] - 1919	5,000	2	0.04
MacMillan[6] - 1920	15,000	3	0.02
Rendich[7] - 1924	5,033	2	0.04
Morrison[8] - 1925	3,500	42	1.2
Pancoast and Boles[9] - 1926	9,000	16	0.18
Elward and Otell[10] - 1929	400	6	1.5
Ritvo[11] - 1930	8,000	60	0.75
Knothe[12] - 1932		300	8.0
Rigler and Eneboe[13] - 1935	4,200	44	1.05
Root and Pritchett[14] - 1938	2,213	31	1.4
Eisen[2] - 1938	1,133	33	2.9
Levy and Duggan[3] - 1941	1,220	26	2.1
Beilin[25] — 1941	7,000	26	0.37
DeHollander[16] - 1941	1,070	15	1.4
Morris[17] - 1942	13,000	291	2.2

There have been many classifications, some quite detailed, applied to diaphragmatic herniae based upon etiology, embryology, the anatomical site of the opening in the diaphragm, the presence or absence of a sac, the abdominal contents involved, and the age of the patient. Clinically, such classifications create a distinction where there is no practical difference. Most writers state that there are three main groups: (1) Congenital; (2) acquired; and (3) traumatic. This classification is purely academic since there is every probability that so-called "acquired" herniae are the result of embryologic deficiencies, which are unable to withstand the stresses of intrathoracic and intra-abdominal pressure changes accompanying normal existence.

A classification of considerable practical value and one which aids in the selection of treatment is that proposed by Harrington.[1] He uses trauma as a criterion and classifies these lesions into non-traumatic and traumatic. The non-traumatic hernia may be congenital or acquired, meaning that it is either present at birth or develops later. If present at birth, the cause may rarely be an esophagus which is too short or an actual absence of one-half the diaphragm. The traumatic hernia may be caused by direct or indirect injury or by inflammatory necrosis of the normal diaphragm.

Congenital herniae are found at areas of embryonic fusion, most commonly at the foramen of Bochdalek and the esophageal hiatus.[19] Those herniae presumably acquired after birth occur quite predominantly through the esophageal hiatus, possibly because the structure of this ring allows easy dilatation[20] and the fluid-like mobility of the viscera immediately beneath it contributes to a ready prolapse. Add to this structural peculiarity, certain spasmodic or sustained increases in intra-abdominal pressure such as may accompany pertussis, convulsions, severe constipation or pregnancy, and we may have the developing force necessary to precipitate these herniae. Rigler and Eneboe[13] examined 195 women in the third trimester of pregnancy and found diaphragmatic hernia in 18.1 per cent of multipara and 5.1 per cent of primipara. Of ten positive cases re-examined following delivery, the herniae could not be again demonstrated in over two-thirds of the patients.

Traumatic diaphragmatic hernia may be caused by direct or indirect injury, such as those which result from automobile accidents and war wounds, or by inflammatory necrosis secondary to empyema and subphrenic abscess. Their most common location is in the posterior portion of the left diaphragm, but they may occur at any point. The esophageal hiatus type ordinarily is the only one boasting a true hernial sac and usually contains stomach alone. Other types of hernia have no sac and may contain a wide variety of abdominal viscera.

Symptoms. — The symptoms of diaphragmatic hernia are any or all symptoms exhibited by pathology occurring in the digestive, circulatory or respiratory systems.[21] This may sound like overstatement but becomes reasonable when it is realized that we are dealing with portions of the abdominal viscera in strained and abnormal positions interfering with the functions of the diaphragm, heart and lungs. Indeed,[22] if such interference did not occur there would be but few lesions of this sort that would produce symptoms.[23]

In the infant or child with a congenital hernia, symptoms may differ markedly from those in the adult.[24] Cyanosis is common and convulsions are frequent. There is often a cough simulating pertussis. The infant takes feedings poorly, regurgitates often, and, as a result, is undernourished and underdeveloped. Intestinal obstruction is quite common and asphyxia is the most common cause of death. Upon physical examination, other anomalies may be found; the lung is collapsed and dextrocardia is usually present. Roentgen examination reveals much of the gastrointestinal tract in the thoracic cavity with esophagus deflected and stomach inverted. In this type, operation is imperative but the mortality approaches 50 per cent in the best of hands.[25],[26]

When the defect is not such as to terminate life in infancy, the individual may lead a normal existence until a later period. As the hernia increases in size or, more important, as greater interference with function occurs, symptoms appear. These are protean, and it is said that these herniae are diagnosed erroneously on an average of three times before a correct diagnosis is obtained.[1] The diagnoses most commonly made relate to gall bladder and stomach pathology with a smaller group referring to the heart. Occasionally, obscure types of anemia are caused by such herniae. In a majority of cases of diaphragmatic hernia, however, the symptoms suggest pathology in some sphere of digestive function and it is aberrations of this type that bring the patient to the roentgenologist.

The first noticeable symptoms of these herniae as they are found in later life may be sudden and dramatic with acute intestinal obstruction or profuse gastric hemorrhage. But more frequently the onset is insidious, obscure, variable, and usually slowly progressive. Attacks of epigastric distress that may be projected through to the back, that often come on in the course of, or shortly after, a heavy meal, and are frequently relieved by induced vomiting or belching, or more simply, arising and walking about, may be the initial symptoms. So-called "intractable heartburn" appearing in the third trimester of pregnancy[27] has been a symptom frequently overlooked. A diagnosis of gall bladder pathology is customary at this point. The patient is seldom referred to the roentgenologist and responds fairly well to dietary and medical management.

Later, attacks may occur differing so in onset and symptomatology from previous illness that they are considered unrelated. The pain may be agonizing and vomiting difficult to induce. Pain may be referred to the precordium, left shoulder or left arm and be accompanied by tachycardia, palpitation, dyspnoea or cyanosis. The pain may be induced by only the ingestion of a fluid and food specificity seems absent. The attack may last for minutes or hours, may be completely relieved by vomiting and frequently recurrs immediately after food is taken. Oddly enough, these symptoms are often augmented when the patient lies down. Indeed, night awakenings with abdominal distress and bloody emesis may render sleep in the recumbent position impossible. Such a phenomenon, otherwise unexplained, should lead one to suspect diaphragmatic hernia.

Hemorrhage is common, either the emesis of bright red blood or the more chronic and persistent presence of blood in the stool. The clinical diagnosis at this stage may indicate coronary pathology, peptic ulcer, or secondary anemia, depending upon which set of symptoms is predominant.

There is often an interval of weeks or months between attacks and when these present a bewildering succession of symptoms marked by variable clinical pictures, the possibility of diaphragmatic hernia increases.

The roentgenologist must be able to distinguish clearly between diaphragmatic herniae amenable to surgery and other anomalies in which such procedures are not indicated. These are three in number. Eventration[28],[29] of the

diaphragm is not a hernia in the true sense of the word. The diaphragm is present but quite high and functionless either because of deficient musculature or phrenic nerve injury. Thoracic stomach,[30],[31] either complete or partial, implies that the esophagus is congenitally short and that, therefore, the stomach, in whole or in part, has never been below the diaphragm. Congenital absence of one-half the diaphragm[22],[32] is usually left sided, is often without incapacitating symptoms, and the lack of even rudimentary tissue makes surgical correction impossible.

Treatment. — The only cure for diaphragmatic hernia is the surgical closure of the defect. Conditions alter the picture so markedly, however, that one hesitates to become dogmatic in recommending treatment. In the infant, the spectre of intestinal obstruction and asphyxia is so real[33] that operation should be insisted upon, despite a relatively high mortality. In the obese and aged, much may be accomplished by careful attention to dietary details and medication.

The patient must be instructed to avoid all conditions which increase intra-abdominal pressure such as violent exertion, straining at stool, vomiting, and the ingestion of large amounts of food or fluids. Pregnancy should be avoided and the common habit of requiring a woman in labor to "bear down" might well be discontinued. Many patients who are poor surgical risks receive considerable relief by crushing the phrenic nerve on the side corresponding to the lesion.

In the operative treatment, the approach has often been discussed. Most surgeons favor the abdominal route, although necessary exceptions in the findings make a thoracic approach imperative at times.[33] In either event, because of possible absence of a true hernial sac, positive pressure intratracheal anesthesia is to be preferred. The incision should be ample since surgical procedures of this sort may be quite difficult. The left coronary ligament of the liver is divided and the left lobe retracted. The spleen is retracted laterally and adhesions occasionally make its removal imperative in order to provide adequate exposure or stop hemorrhage. The hernial contents must be returned to the abdomen without injury to the heart or aorta, both of which are obvious, to say the least. The necessary separation of adhesions may cause excessive hemorrhage from lung tissue. Pulmonary collapse may occur, and as Hedblom[21] put it: "Operation for diaphragmatic hernia, whether laparotomy or thoracotomy, usually involves the technical consideration and problems of surgical pneumothorax." A preliminary phrenicectomy (or mere crushing of the nerve) is advocated by many surgeons to permanently or temporarily paralyze the left diaphragm. This facilitates suturing, a difficult matter upon a moving diaphragm, and possibly prevents recurrence by relieving unnecessary motion during the period of healing. In the treatment of the congenitally short esophagus type of hernia, phrenicectomy is imperative.

Of the suture materials used it would seem advisable to employ either heavy braided silk or fascia lata to close the hernial opening. Catgut probably absorbs too quickly to be efficient. If a true sac is present, it may be excised or scarified. Many surgeons make no attempt to do this. Blood or plasma transfusion at operation or after is the method of choice to combat shock.

Postoperatively, efficient oxygen therapy is of considerable importance. In the event of artificial pneumothorax, oxygen therapy may prevent cyanosis until the lung has expanded spontaneously. In other instances, it may be necessary to aspirate air from the thoracic cavity by trocar and suction. Presumably, the sulfonamide group of drugs will prove exceedingly useful in preventing unpleasant complications.

It has been estimated that one-third of diaphragmatic herniae eventually strangulate.[21] In the light of subsequent reports, this estimate may be high. When it occurs, the treatment of obstruction or strangulation must of course become the predominant concern. Hedblom[33] has discussed many of the criteria for treatment.

Mortality and morbidity statistics naturally vary with the patient, the experience of the surgeon, and the presence or absence of strangulation. However, a survey of published case reports with an estimate of unpublished material, all philosophically interpreted, gives us a rough idea of what may be expected under reasonably good surgical conditions.

Recurrence is approximately 5 per cent. Operative mortality in the infant and child approaches 50 per cent. In the newborn, without operation, 75 per cent die before the end of the first month of life. In the older unobstructed cases, the operative mortality is probably around 10 per cent. Obstruction and strangulation at least double this figure.

CASE REPORTS

The two cases here reported do not constitute a long series, but they do illustrate many of the factors of treatment, both conservative and radical, which may be employed when such herniae cause clinical symptoms.

Case No. 1. Mr. F. S., born Feb. 1, 1917, a machinist. This patient was seen in his present illness Jan. 20, 1941. His complaint at that time was of a localized epigastric pain. This had started in approximately the first week in December, 1940. He had never had pain of this type before that he could recall. The patient localized the pain about 5 cm. to the left of the midline and 8 cm. above the umbilicus. It more commonly came on when the stomach was empty but not infrequently seemed to be exaggerated by food. A rather striking characteristic of the pain was its onset and frequent occurrence during the night. In fact, the patient's primary worry was his inability to sleep because of this pain. He has lost considerable weight for this reason.

Past History: This patient was seen for the first time on Jan. 18, 1936. He had a history of some sort of stomach trouble at that time which consisted of pain in the epigastrium brought on by ingestion of any sort of food, nothing selective noted, and relieved by vomiting. He had vomited after almost every meal for the previous two weeks. On Tuesday, Jan. 14, 1936, he first noticed yellow conjunctivae. This progressed to a very definite generalized jaundice. He was tired, weak, and very nervous. He had had mild diarrhea but the patient had never noticed gray or clay colored stools. This was considered to be a catarrhal jaundice and cleared up under medical management in approximately two weeks.

As a child of about 2 years, the patient had had very severe spasms which had always been blamed upon dietary indiscretion. Also as a child, he had scarlet fever, measles and chicken pox. With the exception of a circumcision done Aug. 23, 1939, the patient's previous history is not remarkable.

Of some interest is the family history. The mother had had two children uneventfully but after the second developed a complete uterine prolapse which two surgical attempts failed to correct. The nature of these attempts is unknown. The patient's sister had developed rather marked leg varicosities in her early teens. Whether these instances indicated a certain familial instability or weakness in certain tissue elements can only be surmised.



Figure 1. Hernia through the esophageal hiatus showing a portion of the stomach above the diaphragm. Case 1.

Physical Examination: Temp. 98.6 degrees. Pulse 78. Blood pressure 112/66. Wt. 190 lbs. With the exception of definite localized tenderness to the left of the midline and above the umbilicus, the physical examination is essentially negative. Blood Kahn and Wasserman negative on Feb. 20, 1941.

With a tentative diagnosis of peptic ulcer, the patient was referred for x-ray study (Dr. D. M. Sirca). This very clearly revealed a diaphragmatic hernia (Figure 1) apparently of the esophageal hiatus type. An attempt was made to secure some relief of symptoms through medical management so the patient was hospitalized on Jan. 24, 1941. He was placed essentially upon peptic ulcer management including sedatives and bismuth preparations, and received some relief. Upon being discharged on Feb. 7, 1941, he was having very little pain or discomfort. However, upon the attempt to resume ordinary activity, the pain returned with even greater severity and the patient requested surgery. This was done under cyclopropane anesthesia at St. John's Hospital on Feb. 20, 1941.



Figure 2. Operative findings in Case 1. A true sac was present and the dilated ring is well illustrated.

A long, slightly diagonal, upper left rectus incision was made. The coronary ligament was divided and the left lobe folded and retracted medially. Approximately one-third of the stomach was in the thoracic cavity, passing through a moderately enlarged hiatus. (Figure 2). A sac was present and artificial pneumothorax fortunately did not occur. The stomach was reduced and two mattress sutures of heavy black braided silk were employed to reduce the hiatus to normal size. (Figure 3a). In an attempt to prevent posterior rotation of the stomach and take some tension off the mattress sutures, the posterior wall of the stomach was sutured to the coronary ligament and its projection (Figure 3b) before the liver was sutured in place. The convalescence was uneventful. Oxygen was used at intervals for 48 hours and then discontinued. The patient was discharged March 16, 1941, completely relieved of symptoms. A roentgen study done April 14, 1941, revealed the stomach below the diaphragm. (Figure 4). Upon last examination on Jan. 22, 1942, no symptoms had recurred.

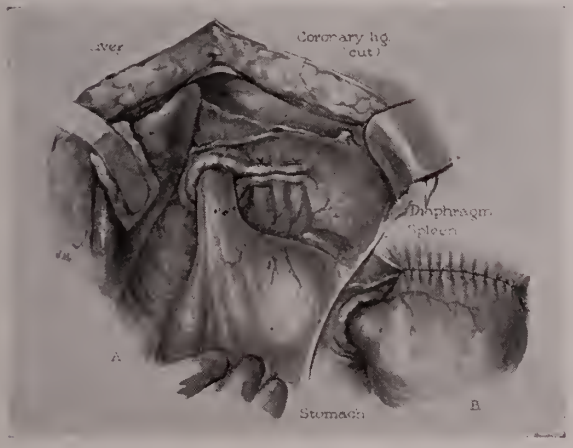


Figure 3. a) Case 1. Method of closure with heavy braided silk mattress sutures. b) Stomach sutured to the cut edge of the coronary ligament of the liver.



Figure 4. Case 1. The stomach remains below the diaphragm, 8 weeks postoperatively.

Case No. 2. Mrs. D. T., born Nov. 24, 1893. This patient, a white female of 251 lbs., was first seen at 5:00 A. M. Oct. 24, 1935, with a very severe epigastric pain radiating through to the right scapula and of several hours duration. This had been the fifth attack of such pain; first in May, 1932; second in February, 1935; third in May, 1935; and fourth in August, 1935. This was considered to be a typical gall bladder colic and morphine was administered freely. When seen several days later, the only abnormal finding was auricular extra-systoles.

Although the patient had had five acute exacerbations of pain, she also stated that since early adulthood she had been bothered with various types of epigastric discomfort or distress which were usually relieved by vomiting. She frequently had attacks of "gas" which would keep her awake at nights and would be blamed upon dietary indiscretion.



Figure 5. Case 2. Esophageal hiatus hernia. This is not the short esophagus type since the esophagus may be traced to a point below the diaphragm.

She had had an appendectomy and some sort of ovarian operation in 1916 and in 1928 much fat had been removed from her abdomen by operation. By Feb. 18, 1939, her weight had varied from 246 lbs. to 262 lbs. At this time she was having some digestive difficulties and was urged to have a gall bladder and gastrointestinal study but did not do so.

Outside of mild constipation, rather vague digestive disturbances that were considered caused by gall bladder difficulties, and spasmodic attempts at weight reduction, the patient was in relatively good health until Nov. 14, 1940, when for two or three days she had hemorrhages of considerable amounts of bright red blood, apparently from the stomach. X-ray studies (Dr. William DeHollander) on Nov. 20, 1940, revealed a diaphragmatic hernia (Figure 5), apparently of the esophageal hiatus type. An additional finding was the presence of multiple diverticulae of the colon. Since this time the pain and discomfort had become steadily more severe and practically continuous. A striking feature of the pain was its nightly onset or, more definitely, its occurrence after the patient lay down. The ingestion of food either exaggerated the pain or relieved it to a certain extent. However, the patient had a definite sense of the bolus of food stopping at approximately the junction of the esophagus and stomach before passing into the stomach.

Considering the weight of the patient and a questionable cardiac muscle, it was decided that operative repair was a rather risky procedure. Consequently on March 11, 1941, the left phrenic nerve was crushed in order to paralyze the left half of the diaphragm and possibly in that manner, relieve the symptoms. Outside of a relatively slight wound infection, she recovered quite normally and has been very markedly relieved of most symptoms since. She still has occasional epigastric pain and discomfort, usually the result of an excessive food intake, but is now able to sleep through the night without difficulty.

On June 3, 1941, the patient brought up about one tablespoon of bright red blood accompanied by considerable pain for two or three days. This has not recurred.

Upon Feb. 4, 1942, fluoroscopic examination (Dr. William DeHollander) revealed the left diaphragm still markedly elevated and absolutely immobile.

COMMENT

These cases are quite typical of the ramifications and degree of symptomatology which may occur in the presence of diaphragmatic hernia. They are further typical in that the tentative diagnosis in both was peptic ulcer and it remained for the roentgenologist to arrive at a true diagnosis.

In Case 1, there is a possible hereditary defect in certain tissues plus spasms during infancy to explain the hernia. The age of the patient and his general condition made surgical repair the most feasible procedure, especially since conservative management brought but temporary relief.

Case 2 presented an older, markedly obese woman with a questionable myocardium. She obtained almost complete relief by crushing the left phrenic nerve and the result has remained quite satisfactory. Of some interest is the fact that the diaphragm is still paralyzed almost one year after the operation. The concomitant presence of multiple diverticulae of the colon is to be expected in about one-half of the cases encountered in adults.[31]

CONCLUSIONS

1. It is probable, that under conditions of general practise, symptoms sufficient to bring patients to the roentgenologist for gastrointestinal examination will lead to the discovery of diaphragmatic hernia in roughly 2 out of 100 patients.

2. The two cases presented illustrate the symptomatology which frequently occurs, and both the conservative and radical treatment of diaphragmatic hernia.

3. Symptoms resembling those caused by peptic ulcer or gall bladder pathology, often somewhat atypical, and often exaggerated upon assuming the recumbent position should be suspected of being caused by diaphragmatic herniae.

4. A prolonged history of slight dysphagia or "heart burn", unexplained anemias, or anomalous cardiac symptoms, frequently post-prandial and relieved by vomiting but not by food, should receive the benefit of a gastrointestinal roentgenological study.

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THE VALUE OF MINIATURE CHEST FILMS

ARTHUR S. WEBB, M.D., F.A.C.P.
GLENN ELLYN

On discussing this topic I am only discussing the 4 x 5 inch single and 4 x 10 inch stereoscopic miniature film as used with the photoroentgenographic unit built by the General Electric Company. I am speaking only as a tuberculosis worker and not as a roentgenologist. This subject of low cost films for community survey work has been carefully and adequately covered to date by such authorities as Dr. Hollis Potter of Chicago, Drs. Bruce H. Douglas and Carl Birkelo of Detroit and others.

The value of such media in case finding for mass surveys is no longer questioned by those who are doing tuberculosis work.

The necessity of finding the hidden case of tuberculosis in control programs is obvious. The quest for a rapid and inexpensive method has ended as the film used, the 4 x 5 inch or 4 x 10 inch or 35 mm. or paper all have their adherents and values as diagnostic screens.

The roentgenologist is primarily interested in accurate diagnosis. The tuberculosis worker is interested in accuracy but he is also interested in cost as he is charged with the responsibility of tuberculosis control and low cost of investigation per patient is necessary if he is to reach many in such investigations.

The first attempts at any roentgenographic work with less than the standard 14 x 17 inch stereoscopic film were met with objections. It was said that the percentage of error between the standard type and the various other types used was too great. The work of Plunkett and others showed 3.4% of minimal cases of tuberculosis missed on the 4 x 5 inch film when compared to the 14 x 17 standard film. Again (later) Plunkett states that "The results of his study show that by using the 4 x 5 inch film 98.3% of all cases of clinically significant tuberculosis would have been found."[1] Potter, Douglas and Birkelo report "The 4 x 5 inch photorentgenograph quite accurate. Only 2.6% error in detecting 271 cases with active tuberculosis lesions as found in the full size film taken of 1,610 persons."[2]

When the tuberculosis control program was set up in DuPage County, Illinois, an investigation was made of various types of equipment and this led to the purchase of a conventional 200 M. A. equipment with tube stand and rail and a motor driven cassette changer at one end with the photoroentgenographic camera at the other. Thus the 4 x 5 inch miniature can be taken and if further investigation is necessary a 14 x 17 inch single or stereoscopic film can be made for further study.

This equipment is set up in an office in a central location in the county and patients either individuals or groups are brought to the equipment for case finding work.

The technique used for the 4 x 5 inch miniature is 200 M. A. at 40 inches distance and .2 to .3 seconds time with K.V.P. at 58 to 82. For the 14 x 17 inch films we use 200 M. A., 72 inch distance, time 1/20 second. The advantage as has already been pointed out by Plunkett that the 14 x 17 inch film has over the 4 x 5 inch is not only in size but in shorter time exposure.

We are using the x-ray as a means of diagnosis on suspects, checking family contacts periodically and all positive tuberculin reactors in school, industrial or other group surveys. We also used it on a limited group of selective service men (376).

In the beginning of our experience with the 4 x 5 inch film particularly in the first month, it was sometimes difficult to interpret the pulmonary markings and large films were requested in five percent of the cases. Later as experience in reading the miniatures was greater and more comparative films were taken, this percentage was reduced to two percent. After the stereoscopic attachment was added, the difficulties in interpretation were much less. This 4 x 10 inch film gives two 4 x 5 inch films with a shift of 4 inches between each one. Small shadows that might be obscured by a rib or other bone structure in one may be found in the other.

In this series of x-rays of over 4000 films 2,300 were of the single 4 x 5 inch, 1000 were 4 x 10 inch and 850 were 14 x 17 inch. The only

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retakes made were done when there was a question involving interpretation or when pathology was definitely noted, then large films were taken for study.

In the beginning the miniature was used only in survey work among contacts and positive tuberculin reactors. It was not used as a diagnostic media in cases referred for diagnosis by the family physician until we found that the physicians were referring cases that were not primarily chest problems but were referring cases for routine chest films as a case finding measure and as an elimination process in diagnosis or for periodic examinations. A brief history is taken on each case referred for x-ray. If the story is quite suggestive of pulmonary pathology, a large stereoscopic film is taken. If the history is not suggestive, a 4 x 10 inch stereoscopic miniature is done. This had to be done in the interest of economy as the number of referrals has been increasing monthly. There have been others who have taken parallel series of miniatures and 14 x 17 inch films for comparison. We have not run a parallel series except to take miniature 4 x 10 inch stereoscopic films on all cases that show minimal lesions on the large films. In each instance the minimal lesion noted in the large film was noted in the stereoscope in at least one of the pair of the 4 x 5 inch films and noted with enough detail to dictate further study of the case.

In conclusion as I have stated previously, this is not a report on a parallel series of comparative films. This is merely a personal opinion on the value of the 4 x 5 inch miniature x-ray film compared to the stereoscopic film taken as a 4 x 10 inch film. If, in the opinion of the authors quoted, 97.4%[2] and 98.3%[1] respectively of the cases they surveyed were found on the single 4 x 5 inch film and in our series of retakes on minimal lesions noted on the 14 x 17 inch film and checked again on the 4 x 10 inch film and found on at least one of the films of the pair, we can conclude that it is possible to find better than 98.3% or closer to 100% of even minimal cases. While this 4 x 10 inch film is twice as expensive (12 cents) as compared to the 4 x 5 inch film, its diagnostic possibilities are much greater and warrant the extra expense.

In the experience in our community where the doctors are referring more and more cases for investigation of the chest, this low cost highly accurate method is more than valuable. Any factor which encourages the family physician to look for tuberculosis is a definite step in the control and eradication of this disease. It should be emphasized that the interpretation of these miniature films requires some experience in comparative values. Also, that a definite diagnosis can be made in many instances directly on the miniature film but should be deferred until the case is studied with the conventional size film.

Even with the fine work done so far in this field we have not seen the peak of excellence yet reached in miniature x-ray work.

Dr. Hollis E. Potter has stated that "They have recently produced another film with a complex single emulsion which tests out even better in certain respects." He also states that "The grid diaphragm is an instrument of no small value in fluorography particularly when a focused parallel non-moving grid is used in connection with certain types of film emulsions which seem to need the diaphragm to prevent fog. As new and faster emulsions appear, it is probable that such grids will be used in routine."[3]

Dr. H. Kennon Dunham of Cincinnati has stated that "I vote for the new 4 x 10 inch stereoscopic film which I believe is going to revolutionize mass examinations. I don't think there is anything I have seen in the whole work of roentgenology which appeals to me more than the stereoscopic 4 x 10 inch film."[4]

These opinions in addition to the experience in our community with the miniature x-ray as a case finding medium will, I believe, in the future be the greatest step in the eventual control and eradication of tuberculosis.

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DISCUSSION

Dr. Darrell H. Trumpe, Springfield: I too, feel like Dr. Webb, that the use of the miniature x-ray of the chest is a great step towards control and eventual eradication of tuberculosis. It appears to be our best solution for this problem.

Since we are in complete agreement, it seems well to re-emphasize a few points. X-ray in chest work has gone through a gradual evolution. It has gone

from the lowest to the highest place in our list of procedures. At first the x-ray was considered too inaccurate to be of use. However with improvement in equipment and films, and the standardization of technique, it has become our greatest aid in uncovering chest pathology, especially tuberculosis.

Few, if any, medical tests excel our present day conventional (14 x 17) chest film in reliability.

It should be needless to repeat that roentgenologic examination can and often does reveal minimal pulmonary tuberculosis, when symptoms, physical signs, and other laboratory tests are indefinite or even entirely lacking. However there are still too many who will pronounce a chest "clear as a bell", without a good film of the chest.

We know that tuberculosis, in its active form does exist in apparently healthy individuals. Therefore tuberculosis control and eventual eradication depends upon examining apparently well people in mass x-ray surveys.

Recognition of the value of case finding surveys, has caused us to search for a method which is both accurate and inexpensive, as Dr. Webb has pointed out. At present the miniature film is our best solution. As to the optimum size there is much controversy and many dogmatic statements. Perhaps we will not know the best size until after the war. The Navy uses the 35 mm. and the Army uses the 4" x 5". I do know the armies 4 x 5 sterioscopic films that I have seen are most satisfactory. In Germany surveys or rather Tuberculosis Registration, 24 x 24 mm. films, that are projected 9.5 x 9.5 cm. are considered satisfactory. They have no difficulty in registering whole communities there.

The older method of conducting surveys by using the tuberculin test as a screen, and taking 14 x 17, films of positive reactors was fairly accurate but quite expensive. When one speaks in the terms of 1000 chest films the difference in film cost alone amounts to about the difference between $650 and $50 or $100 if sterioscopic photo-roentgenographs are used.

I do not wish to devaluate the tuberculin test, it is very useful to us in diagnostic work, but it does have its disadvantages in mass survey work. It is not entirely accurate, it increases the time and personnel required, and adds to the expense of the examination. To quote Douglas and Birkelo who have used the 4 x 5 films extensively in Detroit, they say — "Photoroentgenography can be applied directly without preliminary tuberculin testing with greater accuracy, and, at the same time, economically." Dr. Webb spoke of using the miniature film in positive tuberculin reactors. I would like for him to give us his opinion about replacing the tuberculin test as a screen, for segregating potential cases of tuberculosis.

I feel that the miniature film has great potentialities and no doubt its accuracy and application will be increased in time. The method can be used so rapidly and inexpensively, that it can be used repeatedly in the same group of individuals, for a serial study. It should be of great value in following arrested cases of tuberculosis, in cardiac clinics and anti-syphilitic clinics.

I have enjoyed Dr. Webb's discussion and it has been a pleasure to discuss this relatively new subject.

Dr. William DeHollander, Springfield: I have had no experience with the 4 x 5 film. I do think, however, knowing what I do, that the 35 mm. or the 4 x 5 would be as good or a better method than the tuberculin testing in that you have a permanent record to which you can always refer back. Whether it would replace it, I do not know. I think we are in the transposition period.

Dr. Arthur Webb, Glen Ellyn (closing): Dr. Trumpe commented on the possibility of using the miniature film in cardiac work. In heart work the value of the distance, 72 inches, and the short exposure time gives us less distortion of the heart outline than you get in the 4 x 5 miniature, which is taken in two-tenths to three-tenths second time at a distance of only 40 inches. Whether or not the cardiologist would feel that he would want to depend upon the miniature film in heart study, I do not know. I would be interested in seeing cardiologists play with the miniature film long enough to get some experience in judging the value of the miniature film, as it has taken others in judging film from the viewpoint of chest and lung pathology. It requires experience with the miniature film to interpret it and so it would in heart pathology. You can pick off gross cardiac pathology on miniature film just as easily as you can on the 14 x 17, but you could not view the standard measurement of the heart as it is done with the usual technic.

As far as skin tests are concerned, Dr. Tice and his co-workers in Chicago had an article in the Review of Tuberculosis, I believe it was in the December number, in which he discussed the relative costs of doing tuberculin testing and x-raying, or doing just the x-raying alone with the miniature film. They found that in doing the tuberculin testing as a preliminary procedure and then the x-raying, that the cost was prohibitive in comparison to doing the filming alone.

In our community, I do not believe that is so. We have a county of 103,000 people, and with the organization that we have, I feel that the cost would not be prohibitive. We still use the tuberculin test preliminary to doing the filming with the miniature film. We feel that the tuberculin test has a value from an educational standpoint. The individual who has a positive reaction on his arm is more anxious to have an x-ray than an individual who comes in for a film and who does not have that very positive personal evidence that he has at least been innoculated with the tuberculosis germ.

Of course, the subject of skin test in comparison to the miniature films would involve a discussion of the skin test which is not the purpose of this particular paper.

If we are going to compare the two methods of mass surveying, using the skin test and the x-ray, or just using the x-ray alone, it is of no value to take a miniature film of an individual this year and not repeat it next year. That should be done year after year on your survey group in order to get any value out of mass surveys. The same is true if you do tuberculin testing and find your positive group this year and film them; next year you should go back and retest the negative group and film the positives of that negative group the following year, or your survey is of no value to the community. That has been definitely proven in our community where we have gone back and re-rayed particularly high school boys and girls. We would find a girl who had a normal film last year, and this year the film showed evidence of early tuberculosis.

I thank you for the privilege of appearing before this Section.

CONSIDERATIONS ON ONE THOUSAND CHEST X-RAY EXAMINATIONS PERFORMED ON MEN APPLYING FOR EMPLOYMENT

A. A. Bauer, M. D.
CHICAGO

The chest examinations to be discussed were made on men seeking employment in industries where they were subjected to silicic dust. The examinations were instituted some years ago when numerous law suits were pending with men claiming indemnity by contracting the disease at work. The employees were then examined to determine the number affected and the involvement in the cases affected. Many of the men seeking employment came from similar plants, some of which had serious dust problems. In order to avoid the accumulation of more liability the men seeking employment were then obliged to have chest roentgenograms made.

With the roentgenograms many other conditions were detected which could have been easily overlooked on rapid superficial routine physical examinations in a noisy plant office. For instance the industries were not interested in pulmonary tuberculosis but the medical profession was and has to a large extent eliminated tuberculous workers from employment in hazardous industries. This probably is more important than silicosis in a sense when we consider the physical well being of men who have a moderate to far advanced silicosis and the fact that they are of no particular hazard to their fellow workers. Cardiovascular diseases, pleural scars, adhesions, glandular enlargements, malignant lesions, anomalous changes are also frequently demonstrated after a negative physical examination. Many conditions cannot be detected on physical examinations, others can be found on a more careful examination after studying the roentgen film.

The men chosen ranged in age from eighteen to forty-five. As stated before many men were exposed to dust in previous places of employment. Recently however many of the men were applying for industrial work for the first time. The young group came from school and the older group from the farming areas seeking employment between seasons. Most of the cases included in this number came from the more recent examinations in the past year, therefore the group should give a fair index of findings of a group of men who have no complaints referable to the chest.

To simplify the report, they included congenital deformities, abnormal changes shown in the thoracic cage, lungs, pleura, heart and aorta, diaphragm and the medistinum. They were then classified into seven types.

Type 1. Type one was considered a healthy chest. Calcified hilum glands, calcified primary foci, fibrous, interlobar and diaphragmatic pleural changes, healed rib fractures and resections, dense fibrous tuberculous scars, slight to moderate cardiac enlargement, slightly widened aortic arch and slight prominence of the aortic bulb were included in type one. The report of type one was summarized as negative to silicosis and negative for active disease but showing markings, scars, calcified areas the result of previous disease which are to be discounted as meaningless in cases with negative clinical and physical findings.

Type 2. Type two was summarized as showing probably silicosis of a minimal grade. The cases were classified as minimal if they presented increased dense enlarged hilum shadows and an increase in density and diameter of bronchovascular markings plus the minute discrete dense shadows (beading) two mm. or less in diameter

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scattered along the increased bronchovascular markings and occasionally the involved mid and lower lung fields are faintly clouded.

Type 3. Type three showed probably silicosis of a moderately advanced stage. This group included the men with nodulation up to four mm. in diameter with the hilar and bronchovascular changes increased as compared to the minimal stage.

Type 4. Type four were cases showing advanced grade of silicosis, cases with larger nodules measuring six mm. in diameter and less and conglomerate areas of nodulation, diffuse areas of clouding in the lung fields usually the mid portion, thickened pleura and increased fibrosis.

Type 5. Type five were cases with pulmonary tuberculosis.

a. Minimal

b. Moderately advanced stage

c. Far advanced stage.

Most of the cases in type five were moderately advanced.

Type 6. Type six were cases with probable tuberculosis combined with silicoses.

Type 7. Type seven were cases with special findings heart, lungs, mediastinum and thorax not included in the above classifications.

In order to get a more definite picture of the types of chests six hundred recent cases were taken. If we had included previous films the percentage of cases with silicosis would be much higher because most of the men had been employed in dust at some time or other. In this series some of the men had been exposed to dust but it is of more of an average group of workers who have worked at other occupations and many who have not been previously employed. The striking picture after examining a large number of chest is the high percentage of healthy chest that come through between the ages of eighteen and forty-five, also the anomalies occasionally encountered in type one. Many chests show the increased lower lobe bronchovascular markings. Many of the men with those markings were re-examined and were found to have no clinical or physical findings. Pleural scars and diaphragmatic adhesions were included in type one. Cardiac enlargement in moderation with no physical findings were included in type one, others were subject to another physical examination to rule out valvular diseases which may have been overlooked.

Silicosis, the cases were only included when they presented the increased hilum shadows and the beading. If there was doubt as to the classification they were placed in the next previous classification, that is type one instead of type two and so forth. If they presented considerable fibrosis but no definite beading they were placed in type eight and the examining physician was consulted to determine whether the man should be employed.

Tuberculosis, unless the findings were calcified primary nodes, calcified hilum glands, a few dense apical and upper lobe peripheral markings without clouding they were placed in type five. Occasionally a case with numerous discrete dense shadows two to five mm. in diameter scattered throughout both lung fields were discovered which were placed in type seven as healed miliary tuberculosis.

Silicosis and tuberculosis were not encountered in this group. In the previous group however occasional cases were found.

Type seven — under this group eight cases with cardiac involvement were found. The most common was left heart enlargement and concentric cardiac enlargement. Increased lower lobe markings with physical findings were classified as bronchitis and bronchiectasis. Diaphragmatic pleuritis with effusion, widened aortic arch, prominent aortic bulb, calcification of the aorta, extensive fibrosis without beading, coaretation of the aorta pneumothorax and dermoid cyst were also found.

To summarize this, the group of six hundred industrial chest examinations, which under the above classification resulted in the following:

Type 1. So called healthy chest 522 cases.
Type 2. Minimal grade silicosis 22 cases.
Type 3. Moderately advanced silicosis 1 case
Type 4. Far Advanced silicosis none
Type 5. Pulmonary tuberculosis
Minimal 5 cases
Moderately advanced 9 cases
Far advanced 1 case
Type 6. Tuberculosis and silicosis none
Type 7. 40 cases

Despite the apparent small amount and reverse nature of the pathology determined by this series of examinations it can readily be seen to

be of a high degree of merit in protecting the diseased patient, the examining doctor, the employer, and those who might otherwise be exposed to infection. Viewed from this standpoint routine examinations of all employees in any industry which may be associated with any industrial hazard becomes a highly desirable hygienic measure which I believe will be more strenuously educated. This can even be extended to non industrial groups, such as personal servants, especially those who handle children, food and dairy employees, students, nurses and any similar groups.

DISCUSSION

Dr. Harold Davis, Chicago: I am glad to discuss Dr. Bauer's paper because I think it is an important addition to our statistics, bearing out previous experiences as to the incidence of tuberculosis. His incidence of tuberculosis was two and one-half per cent out of 600 people examined which is about the same percentage, perhaps a little higher, than is found in different states and in various communities throughout the country. It presents a distinct advance in methods of eliminating foci of tubercular infection.

A number of years ago, Dr. Brittin of the Harvester Company pointed out at a meeting of the Industrial Section of this Society held here in Springfield that the incidence of tuberculosis in workers in industrial plants in the State of Illinois was considerably lower than in the population as a whole, which included all the farming communities. There is no question in my mind that this routine examination of all employees has been the screen which has selected and identified active cases of tuberculosis.

The question which I should like to ask Dr. Bauer is a question which I have not been able to answer satisfactorily. Why do some cases of silicosis show no evidence of advance? They may show a minimal amount or a moderate degree of silicosis at their first examination but show very little, if any, change when re-examined one, two, three, or four years later. It seems to bring up the point that certain individuals whom I like to class as healthy men in that occupation are able to expose themselves to the amounts of dust that we see in modern factory operations in the United States without developing silicosis. A distinction must be made between native South African underground workers and their limited diets and other variables and the class of people employed in surface operations in plants in the United States and our living conditions. However I believe it goes still farther and supports Dr. Barclay's experimental work at Oxford University a number of years ago in which he sprayed lead dust, finely ground to the size of the silica particle, which is supposed to produce silicosis, into the lungs of cats. He found they were able to climinate tremendous quantities, sufficient to plug the major bronchi. They were able to eliminate large amounts of lead dust in a relatively short period of time, a very few minutes to hours. When the air was saturated with moisture, the lead dust remained in the bronchioles for many days to weeks.

I think that this work can be interpreted as showing that a healthy lung, one which has no infection, either specific tuberculosis or non-specific infection secondary to an upper respiratory infection, or no passive congestion such as we see in low-grade cardiac lesions, a lung which has none of these minor unhealthy conditions, is able to tolerate rather large amounts of dust in our present modern environment.

Now, implying that a reasonable hygiene is employed in these plants, I think that Dr. Bauer's examinations show the necessity of eliminating men who have various degrees of disability or unhealthiness, you might say. They are, strictly speaking, not disabled because they are all able to work; they want to work, but they are not up to par; they are not up to a standard, and we must have a standard of healthy chest which we must expect of a man going to work in a dusty plant. With routine examinations in large numbers and their careful study, I am sure that we are going to add a great deal to our knowledge of silicosis and tuberculosis.

Dr. F. Flynn, Decatur: Dr. Bauer, I believe there is still another factor that should be taken up in examination of these chests. We speak of silicosis. Among these employees, are we looking for silicosis or are we looking for pneumoconiosis? There should be some distinction made.

Personally, I believe that all dust produces some change in the lungs if inhaled in sufficient quantities over a long enough period of time, whereas all the studies based primarily on the South African and the American studies are on silica dust. There is probably damage to the lung tissue due to a chemical change by disintegration of these dust particles within the tissues. It has been definitely proved that only particles of less than ten microns in diameter reach the alveolus of the lung, and above 90 per cent of those particles are less than five microns. Most of them are on micron down to colloid material.

As Dr. Davis pointed out, the lung has a marvelous defensive mechanism by which it screens out this dust, primarily in the nasal passages and the upper bronchi, the cilia are working always towards the exit, and are moving this dust out. Only a very small amount actually reaches the alveolus, and only those particles which are taken up by the so-called dust cells and taken into the lymphatic circulation produce damage.

In making surveys and studies, I think the one primary fault in all our work is that we know nothing about the physical conditions under which these men work. As far as I know, in the State of Illinois there has been no study made of the size and quantity of dust in the atmosphere which these men breathe, and unless there is a sufficient quantity of sufficient fineness, there can be no such thing as a pneumoconiosis

or silicosis; therefore, the basis of the primary study should be made on the physical characteristics of the dust in the working conditions.

Dr. Harry Olin, Chicago: I had the good fortune some years ago during the silicosis litigation to examine a group of about 25 working men, men whom I thought probably representative of a cross section of this big problem throughout the country. They were exposed between from a period of two years to thirty years, and very luckily for me, I was able to make x-ray studies on all of them, not flat plates, but I fluoroscoped every one of them and took the films not only stereoscopic, but in the obliques. What amazed me, I think, more than anything else, were those very extensive cases of long exposure.

I think one has to follow out. I think interpretation of a plate without some history of dust exposure or occupation of the individual is inadequate, insufficient. It is not fair to the roentgenologist. I think one should have a short history of the occupation of the individual, length of exposure, and the type of dust to which he has been exposed. I think in that way one can render a more intelligent interpretation and render to the employer a type of report which is fair to the man and also fair to the examination.

What surprised me more than anything else was the tremendous amount of dust deposit in the lungs and some of these individuals were very comfortable. In fact, they were all working; not one of them could be considered as being physically incapacitated. This was just a routine.

There is another factor, I think, which should enter the problem of dust inhalation or other diseases that simulate inhalation disease. I refer to one case that I was called out on that was diagnosed as silicosis, which proved to be an atypical form of miliary tuberculosis. It was not typical of miliary tuberculosis, and it was typical of silicosis, but it was diagnosed as silicosis. It proved to be miliary tuberculosis. I did not consider it silicosis, but I went into the history of the individual. He happened to be a brewery worker whose job was lining all the beer barrels with pitch and showing that no inhalation possibility could enter into his condition of the lungs by that type of work; so I think one has to take into consideration other diseases of inhalation that may stimulate inhalation pathology.

Dr. A. A. Bauer, Chicago (closing): In answer to Dr. Davis' question, the men, if they were found to have silicosis to any degree, were taken off of the exposure hazard, unless they were valuable in their line of work. At the present time they some times have to press these men into their special lines because of the few men they can get in these special jobs. If they continued in their same line of employment, they would not get any more beading, but the beading and the markings would be increased in diameter, so whenever they can, they take the men out of the dust hazard.

TUBEROUS SCLEROSIS

Herman Josephy, M. D.
LINCOLN

More than sixty years ago, Bourneville from France gave the first description of the disease, which he called sclerose tubereuse. He established by his work one of the most interesting and most peculiar morbid entities known in neuropsychiatry, dermatology and pathology.

The disease has always been called tuberous sclerose, although this term is somewhat clumsy and does not cover the actual findings in any respect. The disease is known also as "Bourneville's disease". Other terms, such epiloia, spongioblastomatosis centralis, phakomatosis centralis never became popular; only the term epiloia is found sometimes in English papers.

During the sixty years, which have elapsed since Bournevilles first description, many reports have been published upon this topic. But in spite of this fact, the disease has not lost its interest, due to some evident reasons. First, the tuberous sclerose is rare. Even in an institution like Lincoln State School, only ten living cases are present among the 4300 inmates. Second, the whole pattern of clinical and pathological findings is unique in every respect, and some new features and relations, which were found rather lately, have even stimulated the interest, which this disease deserves.

The clinical aspect of the classical cases is well known and I have only to recall the essential findings in brief.

The typical case offers a significant combination of symptoms in the field of neuropsychiatry and of dermatology.

The neuropsychiatric findings can be subsumed under the heading epilepsy and feeblemindedness. The convulsions are the most constant symptom. Mostly they are of the generalized type, and a status epilepticus is not unusual. Feeblemindedness is present in the majority of the cases, but not in all of them, and may range from low idiocy up to imbecility. Out of ten cases in Lincoln State School seven were classified as low idiots and three as imbeciles.

Neither the epilepsy nor the oligophrenia are significant and none of the both allows a speci-

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fied diagnosis. Decisive, for the clinician, are the findings upon the skin. Some of them are pathognomic, that is, they secure the diagnosis, if they are combined with epilepsy. Others are not pathognomic.

The most famous skin symptom is the adenoma sebaceum, better termed the Naevus Pringle. Second to it, and also pathognomic, are the so-called shagreen leather spots. Less known, but absolutely significant too, are the subungual fibromata, small tumors, arising from the skin at the base of the nails. There may be one such tumor, or there may be many of them, on each finger and on each toe. Fibromata may be found on other parts of the body too, especially round the neck, but here they are not pathognomic for tuberous sclerosis. Cases without any skinsymptoms occur, and are described by Jakob, and others. But they are rare.

Van der Hoeve, in 1933, described small tumors or small white spots, in the retina of tuberous sclerosis cases, which may be found upon ophthalmoscopic examination. Evidently, they are rare. I have never seen them.

There is no doubt anymore, that Bournevilles disease is a hereditary condition. Already in 1913, Berg found cases in three generations of a family. But not before 1933, Belgian and Dutch psychiatrists published convincing family trees. From their work we learned that incomplete, abortive cases of the disease occur, which do not offer the classical picture. I show the fine family tree which was reported by Basstiaanse from Holland, in 1933. Here the father of thirteen children had a peculiar and rare stomach tumor, without epilepsy and feeblemindedness and skinsymptoms. Five of the thirteen children had a typical tuberous sclerosis, four were stillborn, and one daughter had abortive symptoms and had a child with abortive symptoms, too. Among our Lincoln patients I found two siblings, brother and sister, with tuberous sclerosis. Some other patients have, according to the reports given in the folder, relatives suffering from fits.

Tuberous sclerosis, being a real morbid entity, has its own pathology, a very characteristic one, — and in the last run, the pathological findings are decisive for the definite diagnosis and classification. I am able to demonstrate here the postmortem findings of three cases, who died in Lincoln State School. One of these patients expired, before I went to that place, and I am indebted for the slides to my friend Dr. Mackay, who was at this time in charge of the research laboratory in Chicago. The other two cases died since December 1940 and were posted by me. These three cases were found among 160 postmortems, in an institution, where tuberous sclerosis patients should accumulate. The small number indicates again that the disease is a rare one. The first of our cases was a girl, admitted at the age of ten. She was a spastic idiot, with a Naevus Pringle. She expired at the age of 16, from a pulmonary condition.

Case two is that of a man, who was admitted at the age of 43. He was a very low idiot, with epilepsy, and he had many findings upon his skin. There was a marked Naevus Pringle, shagreen leather spots, and several fibromata, especially a large pendulant fibroma at the skin of the head. He had no essential neurological symptoms. He died soon after admission from bronchopneumonia. His age is unusually high for a tuberous sclerosis case.

The third case was that of a girl, admitted at the age of twelve. She expired at the age of fourteen. Mentally she was an idiot, with convulsions and with a marked tendency to get into a status. The child was blind, evidently due to a choked and atrophic disk and to increased intracranial pressure. She had a Naevus Pringle and one subungual fibroma, findings which proved the tuberous sclerosis.

Case one and two were typical. Case three showed the combination of a tuberous sclerosis with a brain tumor, an unusual and rather rare finding.

As a rule, the postmortem findings in tuberous sclerosis are not confined to the brain and to the skin. It is known, for many years, that in Bournevilles disease, besides the brain, at least two organs frequently show tumors or tumorlike formations. These two organs are the kidneys and the heart. Mostly, no clinical symptoms arise from this pathology.

The most common findings are those upon the kidneys. All three cases which I could examine, were positive for this pathology. I show the gross specimens of case two and three. Case three has many whitish nodules scattered over

the whole renal parenchyma, ranging in size from that of a pinhead to that of a walnut. Case two offers a similar picture, but the nodes are larger, softer and more friable than in the other case. On histological examinations these nodes are mixed tumors, composed usually of lipomatous tissue, of nonstriated muscle and peritheliomalike parts. They do not show real malignancy, but one case was described, where such a node got really malignant. I think, as for my part, that there may be some relations to the so-called Wilmstumor of the kidneys, and I think it would be worthwhile, to examine cases of Wilmstumor for other signs of tuberous sclerosis.

Tumor formation in the heart is less frequent than in the kidneys — only one of our three cases had it. On gross examination, one or several white spots in the myocardium are found. Microscopical examination shows fattissue and embryonal myocardial elements.

Sometimes tumors in other organs are found, e. g. in the thyroid, in the intestines or in the bladder.

Especially the kidney tumors are characteristic enough, to suggest the findings in the brain, even before the skull has been opened. Usually, the brain is of average size and has no gross malformations. But the first view and even more the first touch reveals the pathology. The cortex shows peculiar nodes or spots, the "tubera", that is hard whitish parts, which by their consistency and by their color are markedly different from the normal gray and soft cortex. Two forms of tubera can be distinguished, a circumscript type and a more diffuse broadening and hardening of some part in the course of a normal gyrus. Usually many such tubera are present, irregularly distributed over the cortex, but always representing separate nodes in a cortex, which otherwise is normal in appearance. One side may be more affected than the other, the frontal parts more than the occipitals. In very rare cases only one single tuber was found.

The second very characteristic finding upon the brain are small tumors, arising from the inner lining of the ventricles and protruding in the ventricular lumen. They may be lined up along the stria terminalis and are more common in the lateral ventricles than in the others. The size of this nodules is usually around that of a pea. The basal ganglia, the brainstem and the cerebellum are mostly free from pathology, but in two of our cases I found calcifications of small parts of the cerebellum.

A section through a cortical tuber, stained either by toluidinblue or by a myelinmethod, shows the disappearance of the normal structure in this part. Gliastaining shows an abundant proliferation of gliafibres. Some rests of the normal cortical layers are always present. The most significant feature of the tuberous sclerosis in the brain are abnormal giantic cells. Since Bielschowsky's work on the tuberous sclerosis, we know, that there are two different types of giantcells. One kind belongs to the glia, and the second evidently represents giant nervecells with Nisslsubstance and neurofibrils. The latter are often of an immense size, many times larger as even the biggest normal nervecells.

The small ventricular nodes are composed of gliacells, which may form a dense net of fibres. They do not infiltrate the brainsubstance. I mentioned before, that the third of our cases offered an unusual finding besides the typical pathology of the tuberous sclerosis. In this case, a large tumor developed from one of the small intraventricular nodules. The picture shows this large gray mass, which was soft and filled almost the anterior horn of the lateral ventricle. On histological examination, a spongioblastoma is found, very cellular, with multiform nuclei and with many atypical mitoses.

A few words, at least should be said about the classification of Bourneville's disease. Evidently, the condition is singular, and has hardly any relation to others, well known pathological classifications. There are some connections to Recklinghausens disease, the neurofibromatosis, and, on the other hand, to certain types of malignant gliomas — Bourneville himself and some early investigators thought, the condition was an inflammation. But that is not true, because there are no signs of any inflammation. Hartdegen, a pathologist, who gave a histological description of a case as early as 1880, classified it as tumor and called it a glioma gangliocellulare. The modern view, supported by good histological examinations, centers around two points: malformation or dysplasia on the one side, and tumorformation at the other side. Most likely, the truth is in the midth and the disease is related to tumorformation as well as to malformation.

The findings upon the brain suggest a malformation rather than a tumor, although the giant cells are not found in typical malformation, e.g. in heterotopia. The kidney nodes and the skin-fibroma classify as tumors, without any doubt, but all of them show definite biological differences from genuine tumors. They are restricted in growth, and it is rather an exception, that one of these nodes gets wild and forms a real tumor, a renal sarcoma e.g., or a genuine glioma, as in our case.

As for the clinical treatment of the disease, it is evident, that there is no real remedy. But a diagnosis can be made and should be made. The diagnosis means an advice for the parents of such a child, not to have any more children. Family members of classical cases should be examined as carefully as possible, to find out the symptoms of abortive cases and to increase our knowledge about exceptional manifestations of the disease.

DISCUSSION

E. Liebert M. D. (Read by Dr. Goldberg.) Dr. Josephy has presented an excellent clinico-pathological study of tuberous sclerosis and has discussed many problems connected with this peculiar disease. Although we know the exact pathology of tuberous sclerosis and its clinical manifestations, many questions still remain unanswered especially those which correlate function and pathology.

Obviously we are not dealing with a system disease since ectoderm as well as mesoderm are involved. From work on embryonic tissue we know that the development of ganglion cells is finished at the end of 7th month of intrauterine life, and no new ganglion cells are formed after this period. One may, therefore, assume that neuronic elements which are so greatly enlarged in the small tumors of tuberous sclerosis must be due to some developmental disturbance at or before the 7th month of intrauterine life. At this time marked chemical changes take place. Phosphatides completely lacking until the 7th month begin to increase quite rapidly in the Central Nervous System. Myelin sheaths developing at a later stage are never involved in the tuber formation of this disease. It seems, therefore, quite probable that tuberous sclerosis is a disease due to a disturbance in the morphological and chemical development of the brain at the 7th month. Bielschowsky has also stated that this is the probable time of onset of this disease.

An interesting side light which the essayist has brought out is the fact that many stillbirths can be found in tuberous sclerosis families. This also might indicate some disturbance in the intrauterine development. Weil's and Zimmerman's experiments in producing artificial brain tumors by means of injection of chemical substances might help in the understanding of a chemical disturbance as a cause for the tuber formation.

Another interesting feature is that the small tumor formations usually do not produce an epilepsy of a Jacksonian type. In all cases that we could observe, the convulsions were generalized, and localizing symptoms, which one may expect in cases of such circumscribed lesions, are almost never observable. Also electroencephalographic tracing on one of our cases did not show any evidence of discharges usually connected with tumor formation, but rather such potential differences as are usually seen in cases of idiopathic epilepsy.

Feeblemindedness is commonly present in cases of tuberous sclerosis although the foci may be quite small and not very numerous. The question arises whether the function of those cells which do not seem to be involved in the tuberous process, and which do not present any outstanding morphological changes, may not be inadequate. I think that chemical studies, especially during the 7th month of pregnancy, may elucidate many interesting features. Electroencephalographic studies in cases in which we can apply the electrode directly to the tuber formation, may also be helpful in the future in the study of this disease.

I enjoyed the paper of Dr. Josephy much, and we should congratulate him for his excellent discussion and his instructive photographs.

Roland P. Mackay, M. D. (Chicago): I, also, should like to compliment Dr. Josephy upon his beautiful, brief, almost cameo-like description of one of the interesting conditions in neuropathology.

I have had occasion to examine several brains in which I thought at first the patient had suffered from tuberous sclerosis because the ependyma presented a hob-nailed appearance caused by small nodules of proliferated glia. This hob-nailed appearance of the ependyma was frequently associated with other malformations. However, the resemblance to the pathological picture of tuberous sclerosis did not go beyond these two or three features.

One may deduce, perhaps, from Dr. Josephy's presentation and from these observations that I have mentioned that, as he says, tuberous sclerosis is primarily a malformation, i.e., a heterotopia, with neoplastic changes superimposed.

It seems that perhaps the glia is primarily involved and that the other changes in the brain, the changes in the ganglion cells for example, may be secondary.

I should like to ask Dr. Josephy whether he thinks such cases as I have mentioned may have some relation to Bourneville's disease or may be abortive forms of that disease.

Dr. W. R. Kirschbaum, (Manteno): I should like to know whether Dr. Josephy found in his histological examinations calcified areas in these tumor-like growths, and whether he found in the same cases tumors expanding into the ventricles.

From the neuropathological and the clinical experience, we know and therefore we should find by

x-ray examinations some shadows which show in about 50 per cent of cases some bony changes, — cyst-like formations or small cavities and abnormal calcifications in the bones.

As to the brain, there are present from time to time so-called cotton-ball like shadows with a kind of furry periphery. I would like to know whether his cases show these calcifications.

The reason for the calcification is not anything concerned with malformation itself; it is probably due to a vascular disturbance in these highly spongioblastic tumors. In the Archives of Neurology and Psychiatry (1935) it was stated by Yakovlev and Corwin that a relatively high percentage of such calcifications was found at x-ray examinations. I would like to know what the opinion of Dr. Josephy is as to these findings.

Peter Bassoe, M. D. (Evanston): It has been a great privilege to me to hear Dr. Josephy. It is always enjoyable to hear the master make an obscure and difficult subject clear.

There is one point that Dr. Josephy touched on very briefly, — he didn't have time to go into it, — which I would like to ask him to expand upon a little more. That is the relation to central and peripheral neurofibromatosis.

A long time ago I had occasion to examine histologically the brain and spinal cord, and nerves, of a fourteen year old boy who had been perfectly normal mentally. He had very extensive neurofibromata on all the cranial nerves and nearly all the spinal nerves and on various nerves in the abdomen, neck, etc., and in the brain there were small microscopic areas showing the histologic changes of tuberous sclerosis.

There were also some small areas of calcification. There had been no mental change in this boy, — he was a very bright boy. It was known that the grandmother had had neurofibromata, peripheral only.

At the time I found some reference in the literature to the coincidence of tuberous sclerosis and central and peripheral news fibromatosis.

Dr. H. Josephy, (Lincoln): If I may answer the last question first, the relation to Recklinghausen's disease Bielschowsky found the same peculiar glia cells which he found in tuberous sclerosis, in the brain of Recklinghausen's cases.

So far, only in one place in the literature, in one family, was a case of tuberous sclerosis nearly related to a case of Recklinghausen's disease, and we should suspect such combinations more often, if both diseases are related closely.

We have one patient with Recklinghausen's disease in the institution which seemed to me to be quite a clear case, and when a few days ago I examined her, I learned, to my great surprise, that the girl had epileptic fits. I am not sure now where to classify this case, — whether it is a Recklinghausen's case or a tuberous sclerosis case. It will show in the post-mortem, perhaps.

As for the question of Dr. Kirschbaum about tumors expanding into the lining of the ventricles, I couldn't mention that because of lack of time. In fact, these small tumors inside of the ventricles are calcified frequently and we have the x-ray picture of one of the cases which died, where it shows on the x-ray picture. Perhaps that may sometimes be a help in making a diagnosis. The nodes, mentioned by Dr. Mackay, are subependymal heterotopias and are not related to tuberous sclerosis.

One point mentioned by Dr. Liebert is very interesting. We have a lot of rather circumscribed changes in the brain, — a lot of nodes upon the cortex, nodes placed in the centralis anterior and other parts, and localized symptoms are extremely rare in these cases. Nobody knows why. It is a circumscribed lesion and it does not make any focal lesions.

Thank you very much.

FATAL PULMONARY EMBOLISM FOLLOWING VARICOSE VEIN INJECTION

The injection treatment of varicose veins is not free from complications, some of which may even be fatal. A patient who died of a fatal pulmonary embolism while undergoing treatment in our clinic for varicose ulcers of the lower extremities was a 65-year-old woman with a 10-year history of varicosities, edema, and ulceration. She received a total of 7.5 cc. of a 5% solution of sodium morrhuate in 5 injections, the latter 4 being given when she was confined to bed. She died from a pulmonary embolism 31 days after the first injection, and 8 days after the last injection. An analysis of the fatal cases reported indicates that bedridden patients should not be injected. It is important to keep the patient ambulatory following the injection treatment of varicose veins. Injection of too large amounts of sclerosing solution is also dangerous. In our opinion, no more than 10 cc. of solution should be injected at any one time. Routine high saphenous ligation should precede the injection treatment if the fatal complication of pulmonary embolism is to be avoided. — *Arkell M. Vaughn, M. D. and William M. Lees, M. D., Journal of the American Medical Association, April,* 11, 118: 1293-1296, 1942.

Peanut oil, now being used for cooking and salad oil, is used industrially in shaving lotions, cosmetics, soaps, dyes and axle grease; and medically, among other uses, in massage for infantile paralysis victims.

Industrial Health

Committee On Industrial Health — Frederick W. Slobe, Chm., 2024 South Western Ave., Chicago, Frank P. Hammond, H. A. Vonachen, R. I. Barickman.

ABSENTEEISM

Workers Win Wars — Absentees Help Lose Them

Absence from work in American industry reaches the tremendous total of about 500,000,000 days each year. While it is fallacious to assume that production rises or falls in direct proportion to attendance, the deleterious effects of absenteeism are significant. Necessary absences due to incapacitating ailments present a challenge demanding better attention to health and hygiene. And the demoralizing effect of unnecessary absences undermines the industrial and social structure which, if continued, may have a cumulative action of greater significance than the immediate effect on production itself.

The intense interest in this subject is a direct corollary of the war effort which recognizes the essential role of industrial production. And, obviously, the conservation of man-power is intimately concerned with absenteeism. Newspapers have been featuring this subject recently and some strong statements have been made, one of the most emphatic having been made by Capt. Rickenbacker when he said, "Absenteeism among workers in essential war industries is our greatest evil." Such statements are understandable when we compare the lot of industrial workers with that of those in the armed services. Consider, for example, a slogan of our combat forces: "to keep as many men at as many guns as many days as possible." Surely, then, the least that those not in combat can do is to lose as few days as possible in the non-combatant activities of the war effort. And this constitutes a community and national challenge.

In analyzing the causes for absenteeism, due to a common misconception much over-emphasis has been placed on the relative importance of time lost due to accidents and illnesses arising in industry. Actually, sickness and injury with no occupational connection cause from 10 to 12 times as many days lost as industrial accidents and occupational diseases. Medical statistics as to the cause for lost time vary with different industries and localities. A representative report is that of McGee analyzing the experience of the Hercules Powder Company for 1941, covering 10,000 employees, predominantly males. With respect to the relative frequency of the various medical causes for absences, respiratory ailments constituted 29.8 per cent, gastro-intestinal causes were 24 per cent, injuries 11.7 per cent, miscellaneous ailments and request absences were 25.8 per cent, skin diseases 4.1 per cent, nervous diseases 1.4 per cent, degenerative diseases 1.8 per cent, and communicable diseases 1.4 per cent. Analyzing the severity of each group (that is, the percentage of the total days lost), respiratory disease caused 25 per cent, gastro-intestinal ailments 18.6 per cent, miscellaneous diseases and request absences 15.8 per cent, nervous diseases 11.4 per cent, accidents 16.9 per cent, degenerative diseases 5.6 per cent, skin diseases 3.5 per cent, and communicable diseases 3.2 per cent. Most statistics show a considerably higher percentage for respiratory ailments. Gafafer has made a detailed study of all absences of 1 or more days in a large public utility in Massachusetts. Males averaged slightly less than 1 absence per year with an average loss of 8 days per absence; females averaged

about 1.8 absences per year with an average duration of disability of about 6 days. Of absences lasting 4 days or less, about 60 per cent were due to respiratory ailments and about 15 per cent to gastro-intestinal conditions. For absences of longer duration, the percentage occupied by the respiratory group dropped steadily to about 23 per cent for males for 21 day absences, and 35 per cent for females, in contrast to the group comprising all ailments other than those of respiratory and gastro-intestinal origin, which group percentage rose to 38 per cent in males for 21 day absences and 40 per cent for females.

Gastro-intestinal ailments are being subjected to considerable scrutiny as a cause for absenteeism. McGee's statistics quoted in part above, indicate that 81.3 per cent of the gastro-intestinal ailments consisted of acute gastro-intestinal upsets, colon dysfunction, and miscellaneous functional disturbances. Particularly noteworthy is the fact that in this group, absences on Monday were about 5 times as frequent as on either Thursday, Friday, or Saturday. Excesses of food and alcohol, and lack of sufficient sleep were considered as probable causative factors in these Monday morning or post-holiday dyspepsias.

Absenteeism may, perhaps, be subdivided into 3 groups:

1. Justifiable incapacity due to a disabling illness or injury.
2. Unjustifiable absenteeism where deliberate, wilful absences occur. Strenuous week-ends and holidays, high earning power coupled with restrictions on spending, the ease of getting a new job, the desire for recreation, lack of interest in their job, etc. are predisposing factors.
3. The mixed group, in which although no complete incapacity exists, there are certain extenuating circumstances to allow at least a partial justification, such as fatigue, long hours, night shifts, poor transportation, inclement weather, inadequate housing facilities, and pressing domestic and business affairs. Coupled with an indifferent morale, these factors often create absenteeism.

The problem is being attacked from various angles, numerous measures having been proposed. Punitive measures have been suggested, especially in certain plants and ship-yards where the absenteeism rate is 10 per cent instead of the expected, normal average of about 3 per cent. It would appear, however, that other measures should be conducive to better results. Should not efforts to educate the worker and improve his morale be much more effective? Such efforts failing, the chronic offender may need punishment but predisposing factors should first be eliminated.

Among methods of approach are the following:

1. Pride in the job. The worker should be led to feel his job is important and that it suffers if he leaves it.
2. Elimination of boredom. Disinterest occurs when the job does not fit in with the employee's special aptitude or inclinations.
3. Chronic fatigue. Long hours, lack of rest periods and vacations, and a shift not suited to the worker's outside affairs may, in individuals with a low physical and psychological reserve, result in fatigue and chronic discontent.
4. Education as to habits, health, and hygiene. Instruction as to adequate nutrition, the effects of over-indulgence in alcohol, the need for sufficient sleep and recreation, and avoidance of too strenuous week-ends and holidays should be very helpful.
5. Morale building. This psychological approach cannot be over-emphasized. It concerns all the factors which affect the worker's attitude. The trouble may be in the plant; it may be in the worker's home, it may be within himself; if the cause can be found, a cure may result.
6. Adequate housing and transportation facilities.
7. Community facilities for all shifts. Much of the absenteeism among night and odd-shift workers might be reduced if the usual facilities of stores, offices, and places of recreation were available during their hours off.

Quite notable has been the experience in some localities such as Hartford, Connecticut, where many white-collar employees, after finishing their regular day's work, go to another plant to serve a split-shift (half of a regular shift) handling various types of machines such as lathes and presses. In spite of the increase in the total hours employed, absenteeism has been extremely low. The secret of this is the spirit of enthusiasm displayed by these workers. If such a spirit could be developed in most workers, many of the other problems would disappear.

The above is not designed to "coddle" the workers but many workers are so constituted that they require an approach by one or more of the above suggested measures. Some plants have adopted elaborate statistical absenteeism studies with strenuous efforts to reduce lost time. The Bell Aircraft Corporation replaces a worker's usual time card with an "A.W.O.L." card after an absence, which must be explained to and approved by a foreman or department head before the time card is replaced. One plant gives prizes for those with the best attendance record. The Cessna Aircraft Company had a contest for a slogan which was won by a 17 year old girl employee, whose slogan was, "You Can't Spell Victory With An Absent T." Such a slogan merits general adoption. Some plants follow the normal reasoning that the employees themselves are the "safety engineers," using the slogan of, "Stay In The Safety Zone," which implies all phases of safety and health education.

Since perhaps only 50 per cent of absenteeism may be said to be justifiable, it is obvious that the present interest is warranted. Mention has been made of the frequency of Monday and post-holiday absences. Noteworthy, also, is the fact that the lowest absentee rate is usually on pay-day. Drinking, except in the case of the inveterate alcoholic, is probably an aggravating influence rather than a primary cause. It is frequently an "escape mechanism" to get away from boredom, discontent, unhappiness, and lack of adaptability for wholesome recreation or relaxation.

The broad program for the betterment of industrial health and hygiene undertaken by the medical profession, national agencies, manufacturers, and by labor organizations should have as one of its beneficial effects a reduction of absenteeism. Health improvement, good remedial care, sound preventive medicine, and a sense of awareness by every physician of the importance of keeping the worker fit and getting him back to work promptly; a co-operative effort by management and labor; the development of the sense of responsibility of the worker; these are the pillars of production.

Frederick W. Slobe, M.D.
Chairman

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CONTROL AND TREATMENT OF NITROUS FUME POISONING*

"A conference on nitrous fume poisoning held in Cincinnati, Ohio, on January 28, 1943, was attended by about 35 people, including among others representatives of explosives manufacturing companies, the Office of the Chief of Ordnance, U. S. Army, the Office of the Surgeon General, U. S. Army, the U. S. Bureau of Mines, and the U. S. Public Health Service.

"The literature on poisoning by nitrous fumes and case histories of recent fatal and non-fatal cases of poisoning were reviewed. Suggested engineering control measures were: (1) Ventilation; (2) Adequate exits; (3) Proper storage of materials likely to cause nitrous fume exposures.

"Several medical control measures were suggested:

1. Pre-employment examinations should include x-ray of the chest, excluding from employment individuals with certain upper respiratory conditions, asthma, reactivated tuberculosis, and diseases of the heart.

2. Any exposure should be reported promptly and the worker referred to the hospital for an evaluation of exposure.

3. Any workers showing evidence of burning of the throat or chest, epistaxis, lassitude, pallor, cyanosis, and abnormal breathing

*Industrial Hygiene, Feburary, 1943. Published by National Institute of Health, U. S. Public Health Service, Bethesda, Md.

should have absolute bed rest for 24 hours as a minimal period of observation (distressing symptoms may show up as long as 72 hours after exposure). During the observation period the patient should be kept warm, supplied with oxygen if neeessary, given a liquid diet, and have his blood pressure and pulse taken at regular intervals and reeorded. The blood picture should also be studied periodieally, particularly as regards red blood cell count, and hemoglobin and methemoglobin determinations.

"If definite evidenee is obtained that pulmonary edema is developing:

1. Bleed the patient 500-600 cc.
2. Use plasma to combat the hemoconeentration.
3. Administer oxygen eontinuously; administration under pressure may be advisable.
4. Do not give morphine. If sedation is necessary, allonal or luminal should be used.
5. Use of cardiac stimulants should be discouraged.
6. As this is an uncompensated alkalosis, soda is contra-indicated.
7. Give concentrated glucose intravenously.
8. Mercury diuretics may be tried.
9. Adrenal cortieal hormones may be tried.
10. The most satisfactory treatment is prevention."

TUBERCULOSIS FINDINGS IN INDUSTRY REPORTED*

"Seventy-seven war industries in 11 different States were surveyed by the eight 35 mm. photofluorographic units operating in industry prior to February 1, 1943, reports the Office of Tuberculosis Control, U. S. Publie Health Service.

"A total of 194,896 individuals were x-rayed. Tabulations on results of the x-ray are available for 125,190 people. Of these, 1,631 or 1.3% were found to have signifieant pulmonary tuberculosis. The distribution of the positive eases by stage of the disease was as follows: 874 or 53.6% minimal; 707 or 43.3% moderately advanced; and 50 or 3.1% far advanced.

"In the District of Columbia 28,098 government workers have been x-rayed. Exactly 300 eases (1.1%) of pulmonary tuberculosis have been discovered. Of these 182 (60.7%) were minimal, 106 (35.3%) moderately advanced, and 12 (4.0%) were far advanced. In addition, 1,300 workers at the National Institute of Health have been x-rayed. Among these, 15 eases of tuberculosis were found — 9 minimal and 6 moderately advaneed."

DEGREASING COMPOUNDS IN NEW FORMS*

"Degreasing compounds appearing under nondescriptive trade names require eareful analysis to insure proper proteetive measures in their use. Two different soap compounds reeently submitted to the National Institute of Health for analysis were found to contain ethylene dichloride in appreciable amounts. One compound contained 33 percent ethylene dichloride. Control of solvent degreasing compounds by enclosure, condensation, or local exhaust ventilation is accepted good praetice but alkaline degreasing compounds are usually controlled only to prevent dermatoses. The practice of adding chlorinated hydrocarbons to alkaline degreasers will require increased vigilance on the part of the industrial hygienist."

CARBON MONOXIDE IN METALIZING*

"In certain repair shops where brakedrums were being built up by metalizing with steel wire, employees complained that the fumes made them sick. These fumes eonsisted of iron particles about four microns in diameter which, when taken in through the mouth, produced a peculiar taste and some other vague symptoms. It was also notieed that metalizing being done with brass wire did not produce white zinc oxide smoke. It was then suspeeted that the metalizing was being done in a reducing atmosphere of excess acetylene and that there might be a possibility of high concentrations of earbon monoxide. Tests made on a large scale metalizing job using steel wire confirmed this premise since concentrations of carbon monoxide as high as 500 parts per million in the breathing zone of the operator were recorded when metal screens had been placed around the location to prevent the dispersion of large particles throughout the room."

*Industrial Hygiene, March 1943. Published by National Institute of Health, U. S. Public Health Service, Bethesda, Md.

FLUORIDE AND CHROMIUM FROM ELECTRIC WELDING*

"The welding rods used in welding armor plate had produced numerous cases of throat irritation. Analysis of the composition of these rods showed high percentages of fluorine and chromium. Atmospheric samples at the welders breathing level showed concentrations of fluorine averaging 2.6 mg./cu.m. and ranging from 1.6 to 5.1 mg./cu.m. Chromium concentrations were approximately 10 times the maximum amount permitted for chromic acid. It was the concensus that the production of hexavalent chromium compounds or chromic acid in appreciable amounts in the welding operations was improbable and that other forms of chromium would not be toxic in the concentrations encountered. Consequently it was assumed that exposure to fluorine had caused the workers' throat irritation. While the maximum permissible concentration of fluorine for continuous exposure has not been established it was recommended that the concentration should be kept at as low a level as possible and preferably below 1 milligram per cubic meter."

HITLER AND THE DEVIL

Hitler called the Devil up on the telephone one day.
The girl at Central listened to all they had to say,
"Hello," she heard Hitler say, "Is Old Man Satan Home?
Just tell him it's the dictator who wants him on the phone."

The Devil said, "Howdy," and Hitler, "How are you?
I'm running a hell here on earth, so tell me what to do."
"What can I do," the Devil said, "dear old pal of mine?
It seems you don't need any help—you're doing mighty fine."

"Yes, I was doing very good until awhile ago,
When a man named Uncle Sam wired me to go slow:
He said to me, 'Dear Hitler, we don't want to be unkind
But you have raised hell enough, so you'd better change your mind.'

I thought the lend-lease bill was bluff, and could never get it through,
But he soon put me on the spot when he showed me what he'd do.
Now that's why I called you, Satan—I need advice from you,
For I know that you will tell me just what I ought to do."

"My dear Hitler, there is not much left to tell,
For Uncle Sam will make it hotter than I can here in Hell.
I have been a mean old Devil, but not half so mean as you,
So the minute that you get here the job is yours to do.

"I'll be ready for your coming, and I'll keep the fires all bright,
And I'll have your room all ready when Sam begins to fight,
For I see your days are numbered and there's nothing left to tell,
So hang up your phone, get your hat, and meet me here in Hell."

New York State Journal of Medicine, March 1, 1943.

WINGS FOR THE DOCTOR

Aviation has introduced many new elements into the duties of military physicians. The Air Corps surgeon is as much at home in a plane as he is in an operating room.

In fact, medical officers in all branches of the armed services have taken to the air.

It is not only in their mode of transportation that modern military physicians have become air-minded. The Air Corps medical officer must not only provide medical service for flight and ground crews but must check their food and clothing and even study plane design from the viewpoint of health protection.

This is no matter of stereotyped routine. Aviators' clothing, for example, must be warm enough to protect the body at high-altitude temperatures of 60 degrees below zero and at the same time allow flyers to climb into the cockpit at ground temperatures of as high as 120 degrees. Ordinary dietetic considerations are enhanced by the strain of air combat, which markedly increases vitamin requirements. Flyers must be guarded against carbon monoxide poisoning; ground crews need protection against the possibly harmful effects of cleaning solvents and spray paints. These are just a few of the day-to-day problems of aviation medicine.

In a field as new as this, there is necessarily a vast amount of research to be done; and flight surgeons are playing the dual part of guinea pig and experimenter. In the former role they go through all of the acrobats of aerial combat; in the latter, they carefully observe physical and mental reactions.

The results of this wartime research will have far-reaching effects on the development of postwar civil aeronautics. Mankind is taking to the air — and flying doctors are helping to make flight safe. — *J. Med. Soc. Co. N. Y.*

*Industrial Hygiene, March, 1943. Published by National Institute of Health, U. S. Public Health Service, Bethesda Md.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

The Chicago Urological Society at its Annual Meeting, April 22nd, elected the following officers: President, Charles G. Weller; Vice-President, Theophil P. Grauer; Secretary and Treasurer, Russell D. Herrold.

W. Kenneth Kennings of Pittsfield addressed the Macoupin County Medical Society at Carlinville on May 25th. He gave an illustrated talk on "The Diagnosis and Treatment of Carcinoma of the Rectum."

Sixteen physicians and three hundred friends honored C. H. Voorheis of Hutsonville on April 21st for his fifty years in the practice of medicine. The meeting was held in the new Hutsonville Township High School gymnasium which was built while Doctor Voorheis was President of the Board of Education. Dr Andy Hall presented him with the Fifty Year Button and a certificate from the Illinois State Medical Society. The people of Hutsonville presented Doctor Voorheis with a reading lamp, attaching a note which read "Truly, your life in the community has been a light to the pathway of its citizens."

Lt. Col. Roy R. Grinker of Chicago was recently named consultant in neuro-psychiatry to the Royal Air Force. At present Col. Grinker is stationed in Africa in charge of neuro-psychiatry for the U. S. Army forces. He formerly served as chairman of the department of neuro psychiatry at Michael Reese Hospital.

There is no more miserable human being than one in whom nothing is habitual but indecision.

—*William James.*

DEATHS

Ralph Linwood Benjamin, St. Anne; Rush Medical College, 1902. Vice President of American Association for the Study of Goiter; chairman of the surgical section of St. Mary's Hospital, Kankakee. Died May 11, 1943 from injuries suffered in a train-car crash at the age of 64.

Lowell N. Clyne, McLeansboro; Chicago Medical School, 1939. Killed in a plane crash May 10, 1943, at the age of 33.

Clifford U. Collins, Peoria; Physio-Medical College of Indiana, Indianapolis, 1891, Marion-Sims College of Medicine, St. Louis, 1892. Died May 26, 1943, at the age of 76 years.

John Christian De Fries, Thawville; Rush Medical College, 1894. Practicing physician in Thawville for 45 years. Died April 11, 1943 at the age of 81.

William H. Finn, Chicago; University of Illinois College of Physicians and Surgeons, 1897. Practiced in Chicago for 40 years. Died April 22, 1943 at the age of 74.

Louis James Frederick, Joliet; Rush Medical College, 1892. Active member of the Will Grundy County Medical Society. Health Commissioner of Joliet since 1938. Died suddenly May 10, 1943 at the age of 71.

Stella M. Gardner, Chicago; University of Illinois College of Physicians and Surgeons, 1901. Pathologist at Children's Memorial Hospital until her retirement in 1941. Was instructor in pathology at the University of Illinois 10 years and more than 30 years part owner of the Lincoln and Gardner Laboratory. Died May 5, 1943 at the age of 75.

Arthur Henry Geiger, Chicago; University of Illinois College of Physicians and Surgeons, 1900. On staff of Illinois Masonic and Henrotin Hospitals; member of examining board, State of Illinois. Fellow

of the American Academy of Otolaryngology and Ophthalmology. Lt. Col. in the Medical Reserves, U. S. A. Died May 12, 1943 at the age of 65 years.

Herbert Ira Harris, Geneva; University of Buffalo School of Medicine, 1898. Retired Lt. Colonel in the U. S. A. Medical Corps. Died April 23, 1943 at the age of 68.

Robert H. Harvey, Chicago; Northwestern University Medical School, 1894. Practiced in Chicago more than 40 years. Died April 29, 1943 at the age of 75.

Thomas Jefferson Hilliard, Fairfield; Physio-Medical College of Indiana, Indianapolis, 1891. Died May 16, 1943 at the age of 79 years.

Jacob J. Hood, Cicero; Jenner Medical College, 1903. Contributed to many medical journals. Was first health commissioner for the town of Cicero. Died May 27, 1943 at the age of 73.

Paul V. Joyce, Chicago; University of Illinois College of Medicine, 1912. Was Lieutenant in the Army Medical Corps in First World War. Died April 30, 1943 at the age of 59.

David Murton Knapp, Mendon; Sioux City College of Medicine, Sioux City, 1896. Practiced in Quincy for 47 years. Died May 5, 1943 at the age of 71.

Philip H. Kreuscher, Chicago; Northwestern University Medical School, 1909. Formerly Medical Director, Industrial Commission of Illinois; associate professor of surgery, Northwestern University Medical School; chief surgeon Chicago Area, Carnegie Illinois Steel Corporation. Died June 1, 1943 at the age of 59 years.

Raymond H. McPherron, Chicago; Northwestern University Medical School, 1921. Surgical Staff of Woodlawn Hospital. Died May 23, 1943, at the age of 49 years.

Capt. Jerome B. Marciniak, Camp Claiborne, La., formerly of Chicago; Loyola University School of Medicine, 1931. Died of heart attack May, 1943 age 40.

Samuel M. Pittman, Galesburg; Rush Medical College, 1888. Was 1st Lieutenant in First World War. Practiced medicine in Warren County for 34 years. Died April 16, 1943 at the age of 81 years.

Clarence B. Ripley, Galesburg; University of Michigan Medical School, Ann Arbor, 1902. Practiced medicine in Galesburg since 1905. Past president of Knox County Medical Society, member of A. M. A. and American College of Surgery; past chief of staff of the Cottage Hospital. Was Captain in the Medical Corps in the First World War. Died following a heart attack May 6, 1943 at the age of 66.

Grant F. Rulifson, Chicago; Harvey Medical College, 1904. Charter member of the Granville Methodist church. Practiced for nearly 40 years on the north side of Chicago. Died May 16, 1943 at the age of 79.

Wesley Claude Runyon, Belleville; Keokuk Medical College, 1907. Former assistant superintendent of the Alton and Anna state hospitals. Died suddenly of a heart attack May 10, 1943 at the age of 57.

Frank Cassius Sibley, Carmi; Beaumont Hospital Medical College, St. Louis, 1900. Was mayor in Carmi for two terms, former president of the Southern Illinois Medical Society, a councilor of the Illinois State Medical Society and had served as a major in the Army Medical Corps in the First World War. Died May 7, 1943 at the age of 68.

Enos S. Spindel, Springfield; Eclectic Medical College, Cincinnati, 1899. Oldest medical practitioner in years in service in Springfield. Died as a result of an automobile accident May 25, 1943 at the age of 73.

Harry Gideon Wells, Chicago; Rush Medical College, 1898. Professor emeritus of pathology at the University of Chicago and associated with the university for 42 years. Director of the Otho S. A. Sprague Memorial Institute in 1911 and a full professor of the university faculty two years later. Served twice as president of the American Association for Cancer Research and once as president of the Association of Pathology and Bacteriology. Was Lt. Col. in First World War. Died following a heart attack April 26, 1943 at the age of 67.

Isaac Henry Wineberg, Quincy; Chicago Medical School, 1927. Became member of the Adams County Medical Society in 1929. Died May 12, 1943, of a heart attack, aged 54 years.

Herbert S. Worthley, Joliet; Northwestern University Medical School, 1893. Died May 5, 1943 at the age of 76 years.

MENINGITIS INCREASES ALMOST 20 PER CENT IN WEEK

Cases of meningitis throughout the nation increased almost 20 per cent during the week ending January 23, latest for which figures are available. Reports from state health officers to the U. S. Public Health Service show 354 cases for the past week as compared with 298 for the week of January 16. Most of the cases are on the East and West coasts.

Total number of cases for the year to date, that is, to January 23, is 941, which is probably the largest number for that short a period since the U. S. Public Health Service has been keeping weekly records of this disease.

Influenza cases totalled 4,387 for the week of January 23, about the same as for the previous week. Measles increased slightly.

There were 23 cases of smallpox, five in Ohio and four in Indiana. No other state reported more than two.—*Science News Letter,* February 6, 1943.

P. R. N.

The Jocular Jingles of C. G. F.

by

Charles G. Farnum M. D.

Peoria, Ill.

SEASONABLE SONNETS
JUNE

Ah! June! The answer to our ardent prayers,
When all of nature seems in perfect tune!
Small wonder there are countless bridal pairs
For optimism soars to heights in June.
The age-old lust for picnics runs amuck,
An atavistic yearning for the ground,
But vegetarians are out of luck
When bugs and flies and ants so much abound.
The graduates go forth from learning's halls,
The school boy now can fish in tranquil streams,
We all resent our four confining walls,
Cast work aside and idly dream our dreams.
The poets rave of balmy nights and days
And all are balmy in their separate ways.

SYMPATHY

What gobs of emotional stress we waste, or pretend to waste, on the victims of situations of inconcinnity or incompatibility.

We pretend to feel sorry for the mother hen caring for a brood of ducklings in the vicinity of a pond;

We put on the appearance of grief for the poor chap who harbors a crop of hives beneath a plaster paris cast;

We go through all the expressions of sadness for the one-armed paper hanger with the itch;

We actually shed tears for the man with inflammatory rheumatism and St. Vitus dance at one and the same time.

But for the most part these are crocodile tears and our emotions are tinctured with supercilious and ill-concealed hypocrisy and some merriment.

But the person entitled to deep, profound, sincere, honest-to-goodness, one hundred per cent, abiding sympathy with no restrictions, modifications or dilutions is the poor unfortunate guy who for the first time, is trying to chew gum with a set of recently acquired false teeth.

PATHOLOGICAL SONNETS
Sciatica

The fiends of hades burrow in my thigh
With chisels, branding iron and teeth and claws,
Through awful nights I do not close an eye
And no one yet has specified the cause.
Appendix, tonsils, teeth have gone their way,
The twisted back and painful thigh remain,
Massage and heat and casts have had their day
And all I seem to get is added pain.
At times there comes some respite of the pain
And when I think I'm getting some relief
The agonizing thing comes back again
And adds some tears and curses to my grief.
I'm often told and hear with great regret,
Sciatica has never killed one yet.

GOLF CUPS

This game of golf is grewsome and it fills our souls with gloom,
Each time we try to play it we are headed for our doom.
We drive them straight, we pitch them true and yet our scores are high,
We start out singing merrily and finish with a sigh.
The reason for this grief and woe is putts we always miss,
Because the golf authorities make all the

C T
U H
P I
S S
LIKE

Some day I'll build a golf course where a man can make a score,
And all these three and four putt greens will cease forevermore;
I'll leave each fairway as it is, likewise each trap and green
And yet you will not fuss or swear, your soul will will be serene,
Your mind will be at peace and you will play in heavenly bliss,
Because the change I'll make will be to build the

C S
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S T
LIKE

SOPHISTES THE SEER

Sophistes the Seer exhorteth us to utilize to the utmost those days when the sun shineth from the azure sky to the furtherence of the health and the happiness of mankind.

Furthermore he remindeth us that Hermes of the ancient of days saith, "The Sun is Laughter, for 'tis He that maketh joyous the thoughts of men and gladdeneth the infinite world."

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Book Reviews

Traumatic Surgery of the Jaws including First-Aid Treatment. Kurt H. Thomas, D.M.D. The C. V. Mosby Co., St. Louis, Mo. Price $4.00.

Although this text is written primarily for the dentist and oral surgeon, it should be of value to many medical men, especially in this time of war with so many doctors in the Armed Forces. First aid is stressed as well as the immediate surgical care of bony injuries of the jaws.

The author mentions most of the many and varied methods of treatment of fractures about the jaws but he emphasizes the simpler methods most of which can be adapted to the case of battle casualties as well as civilians injured in bombing raids.

The volume is profusely illustrated, including many roentgenognamous, with examples of almost every facture or combination of fractures about the jaws. The text is complete, well-organized but not too lengthy. It should prove of value to the physicians in the Armed Forces and those in civilian life who see the occasional severe facial injury.

W.S. Jr.

Gynecology: By Lawrence R. Wharton, Ph.B., M.D., Associate in Gynecology, The Johns Hopkins Medical School; Assistant Attending Gynecologist, The John Hopkins Hospital; Consultant in Gynecology, The Union Memorial Hospital, Hospital for Women of Maryland, Sinai Hospital and Church Home and Infirmary. 1006 pages with 444 illustrations. W. B. Saunders Company, 1943, Philadelphia and London. Price $10.00.

The author in writing his book has noted the fact that there have been many changes in the practice of Gynecology in recent years as there have been in many other specialties in Medicine. Likewise he realizes that the practice of Gynecology is not necessarily a surgical practice, but many of the conditions peculiar to women are medical and can be treated accordingly.

Surgical principles and procedures are of course given much consideration in the book and the author has outlined carefully those operative procedures which he believes are most beneficial in the many gynecological conditions where surgery is indicated.

Much consideration is likewise given to the medical aspects of the subject and the changes in gynecologic practice as a result of progress in recent years in endocrinology and chemotherapy. The format of the book is most commendable; it is well arranged and everything follows in logical sequence, making it a desirable work for quick reference.

Realizing the increasing importance of urinary tract infections trauma and tumors to gynecologic considerations, a considerable amount of space is devoted to the consideration of these subjects.

The book is a most commendable one and should appeal to the specialist, general practitioner and the clinical attendants as well as to students of Gynecology.

(Continued on page 28)

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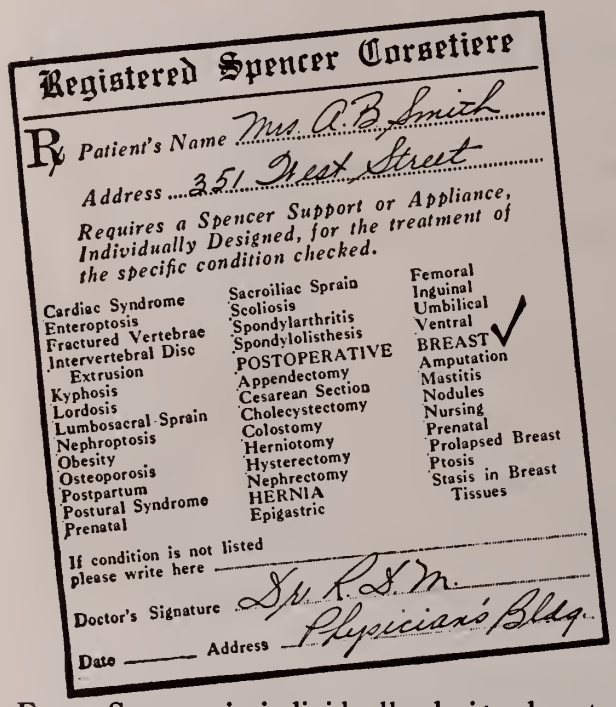
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BOOK REVIEWS (Continued)

NEUROSURGERY AND THORACIC SURGERY. Military Surgical Manuals, Volume VI. Prepared and Edited by the Subcommittee on Neurosurgery and Thoracic Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. W. B. Saunders Company, Philadelphia; 1943; 310 pages with 103 illustrations. Price $2.50.

This is the sixth of the interesting series of Military Surgical Manuals, and like the others, contains a foreword by the Surgeons General of the U. S. Army and the U. S. Navy.

The material contained in this volume has been gathered from a number of sources, and its purpose is to supply to those who have had some previous experience in these fields, information concerning methods of treatment of war injuries to the brain, spinal cord and peripheral nerves, as well as information concerning treatment of war injuries in the thoracic cavity.

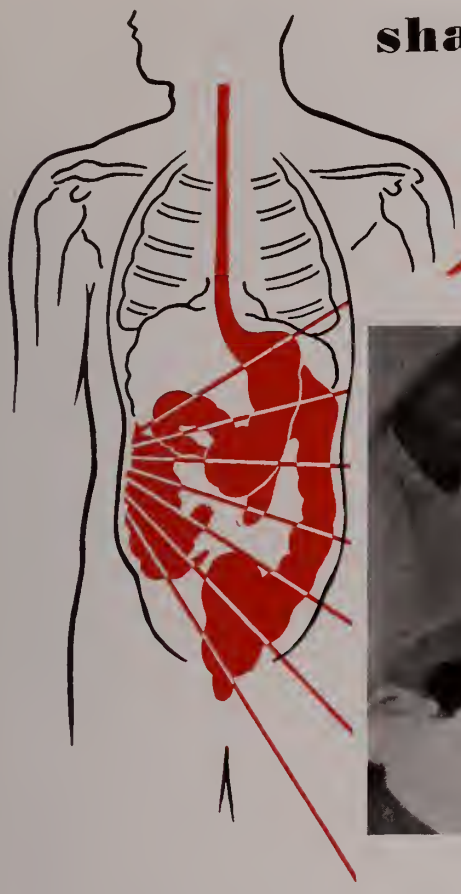
The volume as well as those which have preceded it, should be of much value to the man in service, while the physicians at home should consider themselves most fortunate to be able to procure the volume as an addition to the modern medical library.

OPERATING ROOM TECHNIQUE. By Edythe Louise Alexander, R.N. Supervisor of the Operating Rooms of the Roosevelt Hospital, and Supervisor of Private Pavilion Operating Rooms, New York Hospitals, New York City. C. V. Mosby Company, St. Louis, 1943. 392 pages; 221 illustrations.

This book is dedicated to the operating nurse, "rarely heard and seldom noticed, without whose loyal assistance the task of the most skillful surgeon would be immeasurably more difficult."

The author who has had much experience in operating room technique as supervisor of the operating rooms of several large hospitals, is indeed well qualified to give to others the benefit of her experience, and to give in an excellent manner the general arrangement of an operating room for general surgery, then the care, personnel, and other essential data dealing with the proper management of this important part of the modern hospital.

(Continued on page 30)



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BOOK REVIEWS (Continued)

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This interesting volume should be very popular in all hospitals, and is of much value to the nurses in the surgical department. It is quite likely that the surgeon himself will derive much benefit through reading the book, and be sure that his own standardized procedures compare favorably with those outlined so carefully in much detail.

BLOOD GROUPS AND TRANSFUSION: By Alexander S. Wiener, A.B., M.D., Serologist and Bacteriologist in the Office of the Chief Medical Examiner of New York City; Head of Transfusion Division, Jewish Hospital of Brooklyn, N. Y. Third Edition; 438 pages; 69 figures; 106 tables. Charles C. Thomas, Springfield, Illinois. 1943. Price $7.50.

This is the third edition of a comprehensive work on blood groups and transfusion brought entirely up to date with the addition of the new material developed during the past three years. These past three years have seen many developments in this important field, and it is most fitting that a new edition should be brought out in war time. It will no doubt appeal to many officers in service, as well as the thousands of physicians left at home for civilian duties. Never before has the important subject of transfusion been of so great general interest to all physicians, many of whom only a short time ago, believed that transfusion was a highly technical procedure which should done only by those having had special training in this field.

(Continued on page 32)

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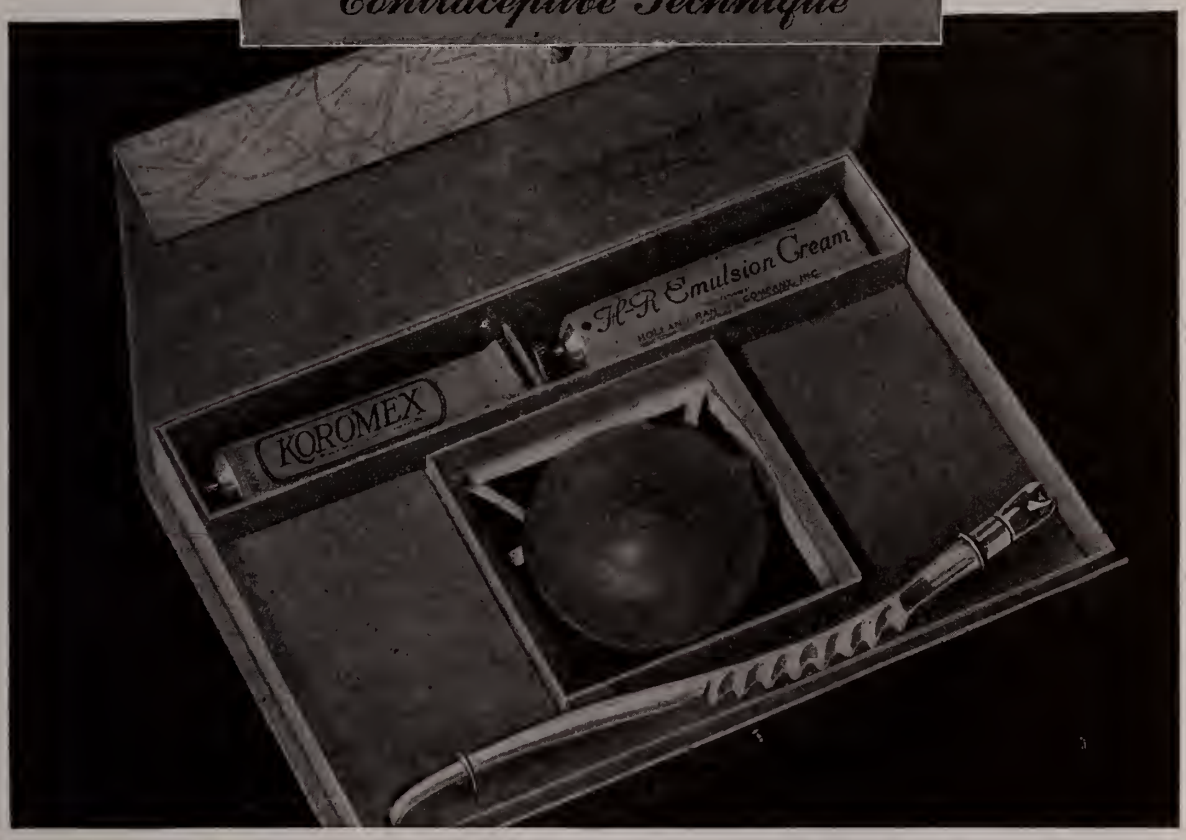
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BOOK REVIEWS (Continued)

Today transfusion is done everywhere, in the small hospitals, in the home, and in the case of plasma and the blood substitutes, can be done anywhere the need is imperative.

This new edition of Dr. Wiener's ever popular book contains two new chapters, one dealing with the use of stored blood and blood substitutes in transfusion, and the other dealing with the newer subject of the Rh factor and its role in erythroblastosis fetalis, subjects of much interest to all physicians today.

The book is well written and should be highly popular with many physicians everywhere. It is of much value in the modern hospitals, and it does summarize the essentials of this highly important subject. It will acquaint many not previously having the knowledge concerning intragroup incompatibility, as well as the other late knowldege on the subject.

NEUROLOGY: By Roy R. Grinker, M.D., Chairman, the Department of Neuropsychiatry of the Michael Reese Hospital, Chicago. Charles C. Thomas, Springfield, Illinois. 1136 pages; 416 figures; Third Edition; 1943. Price $6.50.

The first edition of Dr. Grinker's book appeared in 1934; the second edition in 1937, and this third volume has been completely rewritten, and has just been published. The author states that progress in the field of neurology since the last edition of his book appeared, has warranted the writing of this third edition; many chapters have been completely rewritten, while additions and deletions in the other sections have been made freely.

The book is published with an entirely new format, making it of greater value to the student as well as the practicing physician. The author and publisher are to be complimented on these constructive changes. Realizing that the subject of neurology is a difficult one for the average physician, this has been kept in mind in the development of this volume.

The embryological, physiological and pathological considerations have been well discussed, with proper consideration of developmental defects, degenerative diseases, syphilis and trauma as exciting factors in neurologic disturbances.

The many figures add materially to the value of the book, and it should be of general in-

(Continued on page 34)

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(Continued on page 46)

BOOK REVIEWS (Continued)

terest to the clinician, the student and the teacher. The book is dedicated to the memory of the author's father, Julius Grinker, M.D., who for many years occupied a prominent place in the field of neurology as a teacher, author and practitioner.

The author is to be congratulated on writing such a fine modern work on this subject just prior to his entering the medical corps of the Army Air Force, where he is now on active duty.

Books Received

The following books have been received for reviewing, and are herewith acknowledged. This listing should be considered as a sufficient return for the courtesy of the sender. Books that appear to be of unusual interest will be reviewed as space permits each month. Readers desiring additional information relative to books listed, may write the Editor who will gladly furnish same promptly.

Methods For Diagnostic Bacteriology. A Complete Guide for the Isolation and Identification of Pathogenic Bacteria for Medical Bacteriology Laboratories. By Isabelle G. Schaub, A.B., Instructor in Bacteriology, Department of Pathology and Bacteriology, The Johns Hopkins University School of Medicine; Bacteriologist in Charge of the Diagnostic Bacteriological Laboratory of the Woman's Clinic, The Johns Hopkins Hospital; Instructor in Bacteriology in the Nurses Training School, The Johns Hopkins Hospital; and M. Kathleen Foley, A.B., Bacteriologist in Charge of the Diagnostic Bacteriological Laboratory of the Medical Clinic. The Johns Hopkins Hospital, Baltimore. Second Edition. St. Louis, The C. V. Mosby Company, 1943. Price $3.50.

Treatment of Fractures. By Guy A. Caldwell, M.D., F.A.C.S., Professor of Orthopedic Surgery, Tulane University of Louisiana School of Medicine; Senior Visiting Orthopedic Surgeon, Touro Infirmary; Visiting Surgeon, Charity Hospital of Louisiana; Director, Section on Bone and Joint Surgery, Ochsner Clinic, New Orleans. With 92 Illustrations. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, London. Price $5.00.

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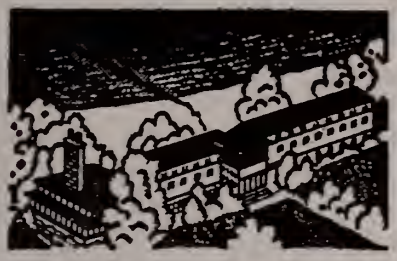
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The Medical Clinics of North America. May, 1943. Symposium on Infectious and Tropical Diseases. W. B. Saunders Company, Philadelphia and London. Published Bi-Monthly.

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ILLINOIS BIRTH REPORTS SOAR IN 1942

Never before in Illinois history were as many live births reported in the State in a single year as the provisional 1942 total of 154,048. Since 86,708 deaths were reported in Illinois last year, the excess of births over deaths represents a population increase of 67,340, the greatest increase of this kind shown in the State in any one year since 1924. The average annual excess of births over deaths in Illinois for the ten year period from 1932 through 1941 was 31,636, or less than half the 1942 figure.

On the basis of the excess of reported births over deaths, only three of the 25 years for which reliable records have been kept in Illinois show greater annual population gains than does 1942. In 1921, the year when the State's birth rate was at its highest recorded peak, there were 150,715 births and 73,718 deaths reported, representing a net gain of 76,997. In 1923 the population increase, figured on this basis, was 61,781; and in 1924 it was 68,511. The figures for these three years, and for 1942, are in vivid contrast with the figures for 1936, the year when the State's excess of births over deaths reached its lowest recorded point. With 113,965 births and 92,919 deaths reported in Illinois in 1936, the net gain for that year was 21,046, or less than a third of the 1942 gain.

As shown in the accompanying table, there were about 15 per cent more live births recorded in Illinois last year than in the year before. It would be reasonable, perhaps, to expect that a proportionate increase would occur in the number of stillbirths and in the numbers of infant and maternal deaths. It is greatly to the credit of wartime medical and public health services in the State that nothing of the kind happened. It is true that 11 per cent more babies under one year of age were lost in Illinois in 1942 than in 1941, but 11 per cent is a good deal less than 15 per cent. This means, in fact, that the infant death rate per 1,000 live births in Illinois was brought down from 34.0 to 33.0, the best record ever yet achieved in the State.

The improvement in the rate of stillbirths is impressive, also. It is true, as the table shows, that 7 per cent more reports of babies born dead were filed in Illinois in 1942 than in 1941. But

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ILLINOIS BIRTHS (Continued)

this means that where one stillbirth for every 42 live births was reported in the State in the earlier year, the 1942 ratio of stillbirths to live births was only one to 45.

Even more striking is the improvement in the maternal death rate. Far from increasing 15 per cent, in proportion to the number of births reported, the number of maternal deaths reported in Illinois in 1942 actually went down to 12 per cent less than the 1941 number. This means, from the provisional statistics, that the State's maternal death rate was reduced from 2.41 per 1,000 live births and stillbirths to 1.84, another all-time record.

In gauging the meaning of these statistical findings it is well to remember that if no public health progress had been made in the last ten years, and the maternal and infant death rates in Illinois had been left the same as they were in 1933, the lives of 2,300 babies that were saved in 1942 would have been lost. Similarly 423 Illinois mothers, whose lives would have been lost under the 1933 conditions, were saved in 1942.

Mortality and natality in Ill.	December		Entire year	
	1942	1941	1942	1941
GENERAL MORTALITY:				
All causes	8,188	7,599	86,708	85,552
Typhoid and paratyphoid fever		2	18	28
Cerebrospinal (meningococcus) meningitis	4	2	26	17
Scarlet fever	4	6	33	42
Whooping cough	4	5	95	90
Diphtheria	7	7	62	58
Tuberculosis—all forms	280	259	3,251	3,470
Tuberculosis of the respiratory system	256	231	2,992	3,159
Dysentery—all forms	1	1	54	35
Malaria	1		15	8
Syphilis—all forms	68	83	837	947
Influenza	55	33	373	509
Smallpox				
Measles	2	4	36	87
Acute poliomyelitis and acute polioencephalitis		1	34	22
Acute infectious encephalitis (lethargic)	2		25	26
Cancer—all forms	993	1,035	11,801	11,573
Diabetes mellitus	226	203	2,446	2,281
Pellagra		1	5	14
Diseases of the nervous system and sense organs	706	689	7,615	7,530
Intercranial lesions of vascular origin	617	599	6,729	6,598
Diseases of the circulatory system	3,146	2,607	30,804	28,573
Diseases of the heart	2,955	2,473	29,150	27,089
Diseases of the respiratory system	427	342	3,999	3,955
Pneumonia—all forms	366	277	3,176	3,176
Diseases of the digestive system	371	340	4,251	4,549
Diarrhea and enteritis (under 2 years)	20	11	232	259
Appendicitis	42	34	536	708
Nonvenereal diseases of genitourinary system	738	656	7,618	7,867
Nephritis—all forms	645	568	6,520	6,801
Diseases of pregnancy, childbirth, and the puerperium	29	29	292	332
All accidents	410	658	5,148	6,079
Automobile accidents only	123	341	1,621	2,507
All other causes	703	629	7,728	7,326
LIVE BIRTHS, STILLBIRTHS, AND INFANT MORTALITY:				
Number of live births	18,350	14,560	154,048	134,361
Number of stillbirths	293	283	3,390	3,176
Number of deaths under 1 year of age (all causes)	527	391	5,092	4,576

All-time low records for the State were established in Illinois in 1942 also in regard to the year's total number of reported deaths ascribed to appendicitis, scarlet fever, tuberculosis, and typhoid fever.

But the numbers of deaths attributed to cancer, diabetes, and heart disease continue to trend upwards.

Of special concern to public health officials are the 1942 increases in the numbers of deaths in Illinois owing to diphtheria, whooping cough, malaria, dysentery and meningitis. Long known as a war disease, the last-named of these, meningitis, has been 6 times as prevalent in the State to date this year as it was in 1942. It appears that a good many well persons are carriers of this disease, and that it spreads rather readily when living conditions are crowded. To aid in its prevention, persons who share sleeping rooms may wisely arrange to sleep "head to foot," and also to protect themselves against fatigue and against exposure to inclement weather. The upturn in 1942 in deaths from the dysenteries is especially impressive in view of the fact that qualified British public health observers have also reported these diseases as seriously menacing under present war conditions. — *Illinois Health Messenger.*

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—Seneca, *Epistulae ad Lucilium.* Epis. lux, 4, Quoted by Montaigne, *Essays.* Bk. ii, ch. 3.

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President Clifton D. Gray, of Bates College, said at a luncheon:

"Every man has his own special tape to measure his fellows by. The banker measures them by their wealth, the aristocrat by their birth, and so forth.

"'How is Jones today?' a banker asked an editor.

"'Jones,' said the editor, 'passed on last night.'

"'Poor Jones!' the banker sighed. 'Worth much?' he added.

"'Well, say half a column.'"

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HIGH BLOOD PRESSURE IS FOUND TO BE COMMON OVER AGE OF 40

Investigators Say That In Upper Age Groups A Mild Degree Of Hypertension Can Be No Longer Considered Abnormal

On the basis of blood pressure readings on 14,894 persons over 40 years of age, Commander A. M. Master, M.C., U.S.N.R.; H. H. Marks, A.B., Bethesda, Md., and Captain Simon Dack, M. C., Army of the United States, report in *The Journal of the American Medical Association* for April 17 that they believe "The presence of hypertension at age 40 and over is so common that a mild degree and perhaps even a 'moderate' degree can no longer be considered abnormal. Limits of normal blood pressure at these ages should therefore be raised. . . ."

From their findings the three authors estimate that 41 per cent of the male white population of the United States and 51 per cent of the female white population 40 years of age and over would be expected to have high blood pressures of 150/90 or over. It is generally considered that in the younger age groups blood pressure readings of 120/80 to 130/80 are normal. The authors estimate that, according to their findings, at the age of 50 and over, 50 per cent of males and 62 per cent of females would have blood pressures of 150/90 or over, at the age of 60 and over the ratio would be 60 per cent for males and 70 per cent for females, while at the age of 70 and over it would be 66 and 74 per cent, respectively.

In the introduction to their report they point out that "The problem of hypertension is a fundamental one. Together with coronary sclerosis (hardening of the blood vessel supplying blood to the heart muscles) it is the most common form of heart disease and probably the largest single cause of death. This is doubly so if only those over 40 are considered. Furthermore, hypertension is important in respect to the role it plays in other diseases, e.g. arteriosclerosis (hardening of the arteries) of the cerebral (brain), renal (kidney) and coronary vessels.

"The incidence of hypertension in persons over 40 has become increasingly important because

(Continued on page 44)

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there are now millions of people who survive this age. One third of the present population is 40 years or over and it has been estimated that in 1980 nearly one half will be. . . ."

In their survey the three authors determined the incidence of hypertension in each decade of life according to seven limits, namely 140/90 or over, 150/90 or over, 150/95 or over, 150/100 or over, 150 millimeters or over systolic, 90 or over diastolic and 95 or over diastolic. The first figure is the systolic or maximum pressure which occurs at the time of contraction of the heart. The second figure is the diastolic or minimum pressure which occurs when the heart is dilated.

In their study they found that "On the basis of the customary limit of hypertension, 150 and/or 90 or over, a little over one fourth of the men have hypertension at ages 40-49, a little over two fifths in the next decade, considerably more than half in those 60-69, nearly two thirds in those 70-179 and slightly more in the ninth decade. Among women . . . in the first age group, 40-49, almost a third have hypertension, more than half in the next decade, more than two thirds in the seventh decade and about three fourths in the eighth and ninth decades.

"Turning to the lowest limit of hpertension, namely 140 and/or 90 or over, it is found that about one third of the men between 40 and 49 years of age have hypertension, but this proportion increases rapidly for the next three decades, until it is over three fourths in the eighth. Among women the incidence of hypertension of this degree is approximately 40 per cent between the ages 40 and 49, rising rapidly and exceeding the three quarter mark between 60 and 69. The proportions continue to increase, but more slowly, through the ninth decade, when 85 per cent of the women have a blood pressure of 140/90 or over. . . ."

TOO MUCH OR TOO LITTLE THIAMINE

A recent investigation indicates that too much or too little thiamine or vitamin B_1 may be detrimental to health, *The Journal of the American Medical Association* for April 17 points out in an editorial discussing a study by Claire Foster, J. H. Jones, Werner Henle and F. Dorfman on the relative susceptibility to infantile paralysis of mice maintained at different levels of vitamin B_1 intake. It was found that the incidence of lethal paralysis increased fivefold as a result of an excessive intake of vitamin B_1. On the other hand. 40 per cent of another group of mice maintained on a diet of deficient in vitamin B_1 showed signs of the deficiency within fifteen days, with 40 per cent of them dying within thirty days. *The Journal* says that the data suggest "the tentative conclusion that the maximum natural resistance to poliomyelitis virus is obtained from a minimum full maintenance level of vitamin B_1 intake and that intakes either above or below this level cause decreased resistance. If this should be confirmed by future tests, it would form a new rational basis for dietary hygiene and clinical therapy (treatment)."

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WANTED: General physician and surgeon qualified to head department of general surgery. Militarily exempt. Unusual opportunity for permanent association with seven group clinic. Excellent financial remuneration. City of 100,000. Write Box 109, Illinois Medical Journal, 30 N. Michigan, Chicago.

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